

ANNEX 4.4
CUSTODIAL SERVICES

<u>ITEM NO.</u>	<u>PERFORMANCE REQUIREMENTS</u>	<u>RELATED REQUIREMENTS OR INFORMATION</u>	<u>WORKLOAD DATA</u>	<u>MINIMUM STANDARDS</u>
4.4.3.8	Clean Drinking Fountains	Clean, disinfect and polish drinking fountains.	5W 2A	Drinking fountains will be free of all dirt, soil, stains, or other foreign material, and will have a non-abrasive high gloss appearance.
4.4.3.9	Clean Glass	<ul style="list-style-type: none"> a. Clean interior windows and associated window frames. b. Clean entranceway glass doors. 	2A 5W See 4.4.3.9.a	Glass surfaces and trim will be free of dirt, soil, smudges, smears, and present uniform appearance.
4.4.3.10	Clean Medical Clinic, Labs, Bldg. 2120, TRL 263 and Restrooms.	<ul style="list-style-type: none"> c. Clean display shelves in high visibility areas a. Restroom fixtures, water closets, urinals, lavatories, wash stations, and sinks shall be washed inside and outside utilizing a disinfectant. b. Contractor shall clean and disinfect partitions, stalls, doors, and wall areas adjacent to wall-mounted lavatories, urinals, and toilets. c. Mop hard floors with a disinfectant. d. Floor drains shall be cleaned and flushed with a 	2A 5W 5W 5W See 4.4.3.10.a	Fixtures, floors, floor drains shall be free of stains, dirt, soil, smudges, graffiti and odors.

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e.	Mirrors shall be cleaned and polished.	W	Mirrors and mirror trim shall be free of dirt, soil, smudges, smears, or other substances and have a streak-free appearance.
f.	Waste containers shall be emptied, disinfected, and plastic liners replaced. Cardboard trash shall be broken down and put in the proper outside receptacles marked for cardboard only which will be located next to trash bins in high cardboard use areas. If the cardboard receptacles do not exist at a building, the broken down cardboard shall be stacked neatly next to the outside trash bin for pick up as covered under sub-annex 5.4.6.	5W	Waste containers will be free of all wastes and liners replaced.
g.	All Dispensers shall be filled to include those in restrooms, labs, cafeteria, breakrooms.	5W	No empty dispensers
h.	Clean-up spaces and equipment contaminated with blood, body fluids or potentially infectious materials.	5W	In accordance with section E (items 1 thru 7 and section F), of the SSC Health Clinic, Blood Borne Pathogens Exposure Control Plan, SPG 8715.1
a.	Cleaning Schedules, DR 4-SC01	A	Conformance to DR 4-SC01
b.	Materials List, DR 4-SC02	M	Conformance to DR 4-SC02

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TABLE 4.4-1
DEFINITIONS

Annually (A). Services performed once during each 12-month period of the contract at intervals of 345 to 365 days.

Cleaning. The removal of dirt, soil, stains, liquids, trash, refuse, scale, and any other foreign material.

Daily (5W). Services performed once each calendar day, Monday through Friday, excluding holidays unless otherwise specified.

Damp mopping. The use of a cotton or similar yarn-type mop, which has been mechanically wrung/squeezed to remove excess solution, for the purpose of removing light soil, dirt, liquid, or other foreign material from a floor which does not require the complete mopping of the area, or the area is not soiled sufficiently to require wet mopping.

Disinfecting. The removal or neutralization of material containing or supporting the growth of bacteria/viral organisms capable of causing infection in humans if untreated.

Dispenser service. The checking and refilling of all towel, toilet tissue, soap, or any other dispensers which may be identified by the Government.

Dusting. The removal of laden airborne dirt, soil, lint, or other foreign material from railings, ledges, and any other items which may accumulate airborne particles or stains.

Dusting/cleaning. The removal of dirt, soil, stains, liquids, bugs, cobwebs, trash, refuse, and any other foreign material from any item, office furnishing, fixture, horizontal or vertical surface, or area.

Dust-mopping. The removal of laden airborne dirt, soil, lint or other foreign material from a floor using a clean antistatic dust mop.

Hard floors. Includes composition tile, ceramic tile, brick and exposed concrete.

Mirror/glass cleaning. The removal of dirt, soil, smudges, smears, or any other substance which will interfere with the passage or reflectance of light depending on the particular object and/or condition.

Monthly (M). Services performed 12 times during each 12-month period of the contract at intervals of 28 to 31 calendar days.

Polishing. The removal of dirt, soil, fingerprints, smudges, water marks, scale, and other foreign material from metal surfaces and fixtures.

Scrubbing. The removal of built-up dirt, soil, or other foreign material from a hard floor surface by manual or mechanical means.

Sealing. The application of an approved floor sealer prior to the application of the final floor finish in accordance with industry standards and manufacturer recommendations.

Semi-annually (2A). Services performed 2 times during each 12-month period of the contract at intervals of 6 months.

Semi-monthly (2M). Services performed 24 times during each 12-month period of the contract at intervals of 14 to 16 calendar days.

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Shampooing. The application of an approved cleaning agent to a carpeted floor, cloth material, or covering for the purpose of removing embedded soil, dirt, stains, or other foreign materials.

Spray buffing. The application of a wax and water solution to a floor and buffing with a high speed buffering machine to refurbish the floor finish after wet or damp mopping.

Spot cleaning. The removal of dirt, soil, debris, liquids, stains, or other foreign materials from carpets where adequate cleanliness can be accomplished by cleaning only the immediately affected area and where the cleaning of the entire area would not be necessary.

Stripping. The complete (95 percent or greater) removal of the wax/finish applied to non-carpeted flooring.

Sweeping. The removal of loose dirt, dust, debris, and other foreign material through either manual or mechanized methods.

Three times weekly (3W). Services performed three times a week, on Monday, Wednesday, and Friday.

Trash/waste removal. The collection and disposal of all materials which have been placed into appropriate containers dedicated for disposal or bagged and set aside.

Asbestos Containing Floor Covering. Any floor covering containing 1% or greater of Chrysotile, Amosite, or Tremolite asbestos.

Vacuuming. The mechanical removal of loose dust, dirt, soil, debris and other foreign material from carpeted floors and elevator tracks as applicable.

Waxing/finishing. The application of three coats of an approved nonslip gloss finish to hard surfaced floors such as vinyl, rubber, cork, linoleum, terrazzo, wood, or tile.

Weekly (W). Services performed 52 times during each 12-month period of the contract at intervals of 6 to 7 calendar days.

Wet mopping. The removal of built up dirt, soil, liquids or other foreign materials from a floor using a cotton, or similar yarn-type mop with either sufficient neutral detergent and water solution, or neutral disinfecting detergent and water solution. This will include rinsing if recommended by the detergent manufacturer.

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TABLE 4.2

COLUMN LEGEND

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
17 TRAILERS			19,178	2,284												
TRL 110			434													
TRL 134			840													
TRL 137			840													
TRL 234			680													
TRL 235			680													
TRL 242			2,067													
TRL 246			1,952													
TRL 247			1,328													
TRL 248			1,384													
TRL 249			1,380													
TRL 250			1,380													
TRL 260			1,503													
TRL 262			2,050													
TRL 263			1,680													
TRL C-2	2		1,142		988					112			81	2		
TRL C-3	2		1,142		988					112			81	2		
TRL NMBT-1A	2		980		980								36	2		
TRAILER TOTAL	6		21,462	19,178	2,284	0	0	0	0	224	0	0	198	6	0	0

COLUMN LEGEND		1 BUILDING NUMBER	8 EXPOSED CONCRETE SF	15 DOOR GLASS SF	22 JANITOR CLOSET SF	29 RESTROOM TILE SF
		2 MAIN ENTRANCE WAYS	9 CIRCULATION AREA CARPET SF	16 METRON SF	23 WATER FOUNTAINS QTY	30 RESTROOM CERAMIC SF
		3 TOTAL SF (CEILING AREA)	10 CIRCULATION AREA TILE SF	11 STAINWELL SF	24 RESTROOM CITY	31 RESTROOM CONCRETE SF
		4 CARPET SF	12 CIRCULATION AREA CERAMIC TILE SF	13 CIRCULATION AREA BRICK SF	25 ELEVATOR CABIN SF	32 PARTITIONS WASH CLOSETS
		5 RELIEF TILE SF	14 CIRCULATION AREA CONCRETE SF	15 NUMBER FLOORS	26 NUMBER CABS	33 LAM AREA SF
		6 CERAMIC TILE SF	16 WINDOW GLASS SF	17 JANITOR CLOSETSF	27 LAUNDRY CABS	34 STAIRWELL CITY
		7 BRICK PAVEMENT SF	18 CIRCULATION AREA BRICK SF	19 ELEVATOR CABIN SF	28 SHOWERS CITY	35 UNLVS CITY
		8 CIRCULATION AREA BRICK SF	19 WINDOW GLASS SF	20 JANITOR CLOSETSF	29 LAUNDRY CABS	36 UNLVS CITY
1	2	3	4	5	6	7
1000	8	31,031	9,877	18,070	184	1800
1001	2	6,723	6,140	1,988	0	21
1002	5	92,706	76,787	398	1,088	10,143
1002 OFF. NAVO CAPT.	1,945	1,541	104		5,332	258
1002 LOBBY	1,538		858	260	258	9
1003	10	63,622	40,601	15,072	1,192	637
1003 LOBBY	1,000		1,000	1,000	1,260	1,056
1005	9	61,554	16,175	26,923	1,892	4,917
1006	4,398		4,386	4,386	4,386	
1007	2	7,103	5,775	339	486	218
1008	3	6,377	1,875	2,832	881	322
1020	4	12,680	8,001	80	84	3,038
1020 OFF. OF DIR. OF CHOC	308	308			128	
1100	10	145,098	106,027	34,78	798	803
1100 OFF. OF DIR. OF SSC	1,980	1,561	238		20,373	2,555
1100 CAFETERIA/WORKING	5,950	3,970	1,980		4,70	240
1100 CAFETERIA/KITCHEN	6,129		1,540		100	14
1100 CLINIC/CAU/MEDICAL	2,776	875	1,531		9	
1100 LOBBY	4,449	4,449	2,141		2,200	108
1103	4	39,784	26,022	1,339	578	4,062
1105	7	49,863	14,569	20,283	1,040	774
1106	2	2,950	60	652	2,118	
1107	640		640		1,122	
1110	4	14,743	9,396	3,649		53
1200	4	23,508	10,811	1,282	1,088	1,941
1201	5	16,876	4,592	9,161		2,022
1205	2	6,441	4,522		488	1,239
1206	2	4,389	2,843			1,228
1207	3	1,152		730		258
1210	4	18,384	8,101	7,509		372
1260	4	10,757	9,226	880		184
2101	5	42,776	12,090	112		14,935
2104	4	14,108	9,555	3,058		548
2105	3	27,484	9,178	1,155		14,958
2108	4	5,068	2,608		2,510	
2110	1,395	1,395			288	3
2119	2	5,845	3,322		131	643
2120	2	3,811	899		529	315
2126	1,212	284			279	363
2127	421		421		230	3
2201	3	56,318	9,090	6,184	540	31,728
2201 CAFETERIA/KITCHEN	2,218		1,088	250	783	1,805
2203	1	8,477	1,92	1,32	8120	
2204	2	165,398	16,892	133,503	1,482	11,038
2205	4,914	30	20,198	722	687	
2205 CLEAN ROOM	900		900			
2403	200		228		60	5
2406	2	3,26	1,36	1	631	77
2409	1,662	1,366	0		1	1
2411	1,984	1,525	158		115	
2415	66		66		88	9
2420	1,491	929	380		72	
2422 (1200) MARS EXHIBIT	2	8,477	1,92	1,32	727	
2425	4,108	3,397	79		484	
2436	8,655	5,463	1,921		1,240	
2437	1	1,060	618	1,588		222
2438	1	2,264	4,431	303	595	710
3101	1	6,477	4,431	303	595	710
3102	0				203	19
3104	10,400		140		10,173	
3105	37				12	5

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4.5.1 GENERAL REQUIREMENTS

4.5.1.1 Ambulance Services

Ambulance services are required by this Annex and will necessitate the staffing of the fire department with a minimum of two Emergency Medical Technicians (EMT) per shift.

4.5.1.2 Reference and Technical Documents

The Contractor shall comply with all referenced requirements in official publications listed in **SPG 8838.2** as they apply to the services covered by this specification. All references shall be acquired and maintained in a fire department ready reference library for day-to-day use by the fire protection personnel as needed.

4.5.1.3 Self Contained Breathing Apparatus (SCBA) Program

The contractor shall develop and operate a Breathing Air Program, including the test and maintenance of all related equipment, supplies, air quality, and the filling of SCBAs.

4.5.2 WORK SCHEDULE

4.5.2.1 Routine

Fire protection services shall be provided on a 24 hour per day, 7 days/week, 52 weeks/year basis, including holidays. The initial work schedule for applicable routine tasks shall be submitted to the CO for approval no later than 7 days after the contract award. Once approved, all work shall be performed in strict compliance with the work schedule to facilitate the Government's inspection of the work. If any changes occur with respect to the initial work schedule, resubmit a revised schedule to NASA for approval.

4.5.2.2 Shiftwork

Since it is the intention of NASA to minimize work performed at night in order to meet federally mandated energy conservation goals, except as may otherwise be specified, all work shall be performed between the hours of 7:30 a.m. and 4:30 p.m. However, to minimize inconvenience to both the customers and NASA personnel, some discrete projects, such as testing of some systems, may be performed outside of the normal work hours. Such project work may be accomplished after 4:30 p.m. on weekdays or on weekends. It should be noted that access to certain offices and buildings may be restricted outside the normal "core hours" of 7:00 a.m. and 4:30 p.m. When such access is restricted, Security personnel will have to be notified by the Contractor, in advance, to provide that access for routine services.

4.5.2.3 Staffing

The Contractor shall at all times be fully staffed with personnel qualified in accordance with **SPG 8838.2**. The minimum staffing of qualified personnel shall be such that two engine companies will respond to each alarm and be safely operated concurrently.

4.5.3 GOVERNMENT-FURNISHED PROPERTY

4.5.3.1 Manage and Maintain

The Government will provide equipment and materials identified in paragraph 4.5.7.1. The Government Furnished Equipment shall be maintained and managed in accordance with paragraph 4.5.8.

4.5.4 SERVICE AREA

Contractor shall perform preventive maintenance on fire fighting equipment (i.e. hoses, nozzles, etc.) as well as personal equipment (consumables such as boots, pants, helmets, etc.) listed in **Attachment J-10, List and List 2.** The Contractor shall be responsible for all levels of preventive maintenance to maintain all equipment in a safe,

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serviceable/operable condition and to repair or identify for replacement as required.

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4.5.5	FIRE PREVENTION			
4.5.5.1	Inspect Buildings	Conduct an inspection of all buildings and maintain a file of all inspections. Report findings to the responsible party(s) for resolution.	Monthly 105	NFPA Standard 1231 NSS 1740.11, **DR 6- SA01**
4.5.5.2	Inspect and Conduct Flow Test	Conduct flow test of the potable water distribution system, including all hydrants. Report the deficiencies in delivery of water throughout the system to the CO within 24 hrs. Coordinate with Annex 5, MTS E-25	Annual 199	NFPA Standard 1231 NSS 1740.11
4.5.5.3	Inspect and Test Sprinklers	All sprinkler systems to be inspected and tested.	Quarterly 97	Conduct 2" mini drain test NFPA Standard 13 NSS 1740.11
4.5.5.4	Perform Fire Drills	Contractor shall conduct fire drills that demonstrates the fire alarm system and egress through exits for all facilities.	Quarterly	NSS 1740.11 NFPA Standard
4.5.5.5	Inspect and Test Extinguishers	Perform inspection and test of all portable fire extinguishers, including those on vehicles. Maintain fire extinguishers in fully operational mode.	Monthly 1366 Extinguishers	NFPA Standard 10 NSS 1740.11*
4.5.5.6	Recharge, Repair, Replace Extinguishers	All defective extinguishers shall be repaired, recharged, or replaced by contractor in order to keep them fully operational.	As needed	NFPA Standard 10
4.5.5.7	Test and Recharge Special Systems	Special systems, i.e. Halon, Co ₂ , Dry Chemical, FM200, etc., shall be inspected and tested to assure operational readiness. Specialized installed systems shall be tested. Recharging in accordance with manufacturer's specifications.	Annually 1 Co ₂ 1 FM200 3 Dry Chemical	NFPA Standard 12 NSS 1740.11

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4.5.5.8	Develop/Update Pre-Fire Plans	Develop/update pre-fire plans for each building.	As needed 75	NFPA Standard 1 NSS 1740.11
4.5.5.9	Issue Small Appliance Permits	Review request for small appliances and issue permits as appropriate	129/Yr	NSS 1740.11
4.5.6	ALARM RESPONSE			
4.5.6.1	Fire Alarm Response	Respond to all fire alarms with the minimum required personnel and appropriate fire apparatus, equipment, and supplies to accomplish rescue, fire fighting, containment, and protection of explosives. Respond with ambulance, as appropriate. After completion of response, clean and place all fire fighting equipment back into a condition of readiness.	24 hrs/day 204 Annual	Initiate all responses within 2.5 minutes of alarm receipt NFPA Standard 1202, 1500 NSS 1740.11
4.5.6.2	Ambulance Response	Respond to medical emergencies with EMT certified firefighting personnel. Establish and maintain contact with the SSC Medical Clinic and local hospital emergency room personnel when in route with a patient to that facility.	24 hrs/day 65 Annual	NFPA Standard 1004 NSS 1740.11
4.5.6.3	Emergency Response	The contractor shall provide emergency response that is not fire related such as vehicle accidents, extractions, confined space entries, and hazardous chemical spills. Records will be logged and maintained of all responses.	24 hrs/day 64 Annual	NFPA Standard 472 NSS 1740.11
4.5.6.4	Mutual Aid	Respond to offsite alarms in accordance with paragraph 4.5.6.1, 4.5.6.2, and 4.5.6.3. At least one	24hrs/day 12 Annual	NFPA Standard 1202, 1500

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4.5.7	EQUIPMENT TESTING AND INSPECTION			
4.5.7.1	Inspect and Test Motorized Apparatus	All motorized fire fighting apparatus shall be inspected and tested to assure operability. Log apparatus checklist and keep on file in fire department. The washing of apparatus shall be conducted at the designated vehicle washing facilities, Bldg 2105 and 2401.	Daily 4 Pumpers, 1 Rescue Truck, 1 Dozer, 1 Transporter, 2 Ambulances, 2 - 25 Hp Boats, 2 GSA Trucks	NFPA Standard 1002, 1911 NSS 1740.11** No apparatus shall be out for more than 24 hrs.
4.5.7.2	Inspect and Test Hose	Contractor shall inspect and test and maintain all hoses by removing and pressurizing	Annual	NFPA Standard 1961
4.5.7.3	Test Pumps and Ladders	Conduct flow test of all flow apparatus pumps and conduct test of all ladders to assure compliance with manufacturer's specifications. Test results shall be maintained in fire department.	Annual 9 Ladders 3 Pumps	NFPA Standard 1931
4.5.8	EQUIPMENT MAINTENANCE			
4.5.8.1	Maintain Collateral Equipment	Preventive maintenance shall be performed on all collateral equipment. Collateral equipment refers to all tools, accessory equipment, hoses, and adapters.	Daily	NFPA Standard 1201 NSS 1740.11

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4.5.8.2	Maintain Personal Gear	The contractor shall perform preventive maintenance on personal equipment, i.e. boots, helmets, breathing apparatus. All equipment shall be maintained in a safe, operable condition, and replaced as necessary.	Daily	NFPA Standard 1971
4.5.8.3	Maintain Hazardous Chemical Response Trailer Inventory	The contractor shall assure that the minimum inventory of materials and equipment is available for response actions under 4.5.6.3.	Continuous	Inventory must be replenished within 24 hours. 19 CFR 1926.1200
4.5.9	ISSUE FLAME PERMITS AND PROVIDE STANDBYS			
4.5.9.1	Flame Permit Issuance	Administer a flame permit program that is responsive to the multi-task goals of SSC.	Annual 1,324	NSS 1740.11 SPG 8715.1
4.5.9.2	Standby Operations and Site Support	Provide standby operations as required for SSC organizations. Standby personnel that is not dedicated will leave standby post in case of fire alarm.	Annual 64	NSS 1740.11
		Site support may include washing pavilion, watering flowers, charging waterlines to chillers.	Annual 14	
4.5.10	TRAINING AND EDUCATION			
4.5.10.1	Provide Site wide Training/Education	Provide site wide training and education by developing and teaching classes in CPR, Fire Extinguisher Training, and the development and distribution of flyers associated with fire safety, especially around holidays.	As Required	Identify, schedule and conduct and training DR 6-SA18 and DR 6-SA17
4.5.10.2	Provide Mutual Aid Familiarization	Participants to become familiar with the fire fighting capabilities, facility layout, and possible areas of	Annual	NFPA Standard 1201, 550 NSS 1740.11

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				support by each local department.
4.5.10.3	National Fire Prevention Week	Develop and conduct training for both in house use and site wide training use that is consistent with the current theme of National Fire Prevention Week.	Annual	Must be in compliance with NFPA Fire Prevention Week Presidential Proclamation Activities DR 6-SA01 DR 6-SA17
4.5.11	PARTICIPATE IN DESIGN REVIEWS AND CONFERENCES			
4.5.11.1	Design Review Participation	The fire chief is considered the resident expert in fire safety matters and shall participate in construction design reviews for new construction and major renovation.	Continuous	Participate in Design Review Process
4.5.11.2	Conference Participation	The fire chief will attend one national level conference each year as designated by NASA.	Annual	Share information with interested parties within (7) days of return
4.5.12	REPORTS AND SCHEDULES			
4.5.12.1	Fire Alarm Report	Develop a report of all activity surrounding the response, containment, and investigation of an alarm. Conformance with **DR 4-SA01**	Monthly	**DR 4-SA01** SPG 8715.1
4.5.12.2	Ambulance Report	Develop and Report all activity with regard to each medical emergency response. Conformance with **DR 4-SA01**	Per Response	**DR 4-SA01**
4.5.12.3	Fire Damage and HAZ-MAT Report	Develop a report of all fires that result in a loss, as well as all hazardous spills incidents. Conformance with **DR 4-SA01**	Per Incident	**DR 4-SA01**

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4.5.12.4 Inspection/Testing Discrepancy Report

Develop a report of deficiencies noted during inspections/testing. Conformance with ****DR 4-SA02****

Monthly

****DR 4-SA02****

4.5.12.5 Equipment Testing Maintenance Schedule

Develop an inspection and testing schedule for all equipment, apparatus, and systems. Conformance with ****DR 4-SA03****

Continuous

****DR 4-SA03****

4.5.12.6 Training Schedule

Develop training schedule for classes. Conformance with ****DR 4-MT01****

Annual

****DR 4-MT01****

4.5.12.7 Emergency Response

Develop a report of all emergencies requiring a response. Conformance with ****DR 4-SA01****

Per Response

****DR 4-SA01****

4.5.12.8 Monthly Report

Develop a report of significant activities accomplished during the month. Conformance with ****DR 4-SA01****

Monthly

****DR 4-SA01****

4.5.12.9 Personnel Qualifications Report

Develop a report of qualification of all personnel. Conformance with ****DR 4-MT01****

Annual

****DR 4-MT01****

4.5.12.10 MSAAP Fire Activities

Develop a report of all fire activities at the Mississippi Army Ammunition Plant (MSAAP)

Quarterly

****DR 4-SA04****

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4.6 MULTIMEDIA SERVICES

4.6.1 SCOPE OF WORK

The Contract shall provide a professional multimedia service program as defined in this annex at the John C. Stennis Space Center.

4.6.2 GENERAL REQUIREMENTS

4.6.2.1 Management and General Requirements

The Contractor shall provide a comprehensive range of graphics, publication, printing, and photographic services. Services shall be provided in accordance with applicable laws, regulations, and SSC procedural and regulatory guidance.

4.6.2.2 Resources Management

The Contractor shall manage the labor, material, and other resources required to perform the work described herein. Because of the nature of SSC site organizations' work and organizational structure, the Contractor must be flexible to support programs and/or organizations. This may require that services be provided outside normal business hours (i.e., night shifts, weekends, and holidays).

The Contractor shall plan, furnish, and manage the resources required to provide cost-effective black and white and color graphics, artwork, editing, printing multimedia and photographic services.

The Contractor shall file and store on various media (e.g., electronic disks and hard drives) all graphics and publication work that is generated and ensure that all computer files are safeguarded and retrievable. The Contractor shall establish and maintain a descriptive retrievable database that cross-references all artwork publications, film, proofs, and video that are generated. The Contractor shall maintain all backup systems for graphics and publication products on file servers or other methods approved by the customer.

The Contractor shall maintain records for the purpose of extracting production and cost accounting data by benefactor code, organization, base and demand customers and prepare and submit required activity reports in accordance with contract data requirements. The Contractor shall be responsible for recording and classifying all work orders by organization, reimbursable, non-reimbursable, and subject category, Job Type, Date and time of job request, job cost estimate, actual cost at completion, and job completion date/time in compliance with appropriate reporting requirements.

The Contractor shall be capable of providing services involving classified subject matter. Such work and materials shall be handled in accordance with the latest version of the National Industrial Security Program Operations (NISPOM).

4.6.2.3 Work Authorization

All products and services shall require an authorized Work Request. SWRs will specify requirements, describe the work to be done, and indicate schedules, quality level, publication number, and any special considerations. The Contractor shall be responsible for verifying that all Work Requests have proper authorization signatures and contain programmatic codes before any work is performed. The Contractor shall provide work control services in the Multimedia locations to allow customers the opportunity to drop off work, ask any questions, receive status on their requests, and pick up completed products. The Contractor shall track the status of all work requests in accordance with **DR 4-MA11**. The contractor shall status all jobs scheduled to take 80+ hours using the Microsoft Project software.

4.6.3 Product Quality Assurance

The Contractor shall have a systematic and documented method of ensuring that it has an understanding of and can meet the customers' requirements. The Contractor shall review the customers' orders before accepting them, date and time stamp receipt, provide an estimated cost of work, assign a completion time and date. Government Printing Office (GPO) orders shall be processed in accordance with regulation. The contractor shall maintain

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accurate and complete records. The Contractor shall provide each customer with an evaluation form for customer completion. This evaluation form shall be forwarded to the Government for review.

4.6.4 REPORTS

The Contractor shall submit data requirements in accordance with the DR instructions.

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4.6.5	Multimedia/Graphics Services.	<p>Includes simple to complex word charts, basic page layout, automated complex formats used for simple matting/mounting, automated templates, scanning and redrawing technical illustrations, downloading and redesigning illustrations, original designs, patch art, layout/paste-up photo manipulation, building and designing photographic, video montages, web site support, home page development, camera-ready artwork, and general artwork. Finished products will include overhead transparencies, slides, report covers, illustrations, schematics, certificates, diagrams, charts, posters, flyers, etc.</p> <p>Coordinates with the requester in design structure to develop final product.</p>	SWR History File	<p>Complete work by the established due date within cost estimate. Work meets customer specifications and requirements.</p>
4.6.6	Publications and Illustrations Services	<p>Includes editing, proofing, design and layout, desktop publishing, document scanning and document production coordination from initial concept to hard copy and/or electronic distribution. Examples of publications are technical reports, briefing papers, educational fact sheets, and pamphlets.</p> <p>Illustrations shall be developed consisting of engineering, orthographic, schematic and perspective drawings in digital format and manual board art format showing detailed sections, cutaways, and exploded views. The Contractor shall prepare CAD drawings; space-related subject matter; technical charts, graphs, and diagrams; and illustrations that visually support, clarify, or enhance related written information.</p>	<p>Refer to: Summary of Jobs by Hours/FY & Summary of Material by Items/FY reports.</p> <p>Complete work by the established due date within cost estimate. Work meets customer specifications and requirements.</p>	<p>The Contractor shall have as a minimum a high level of technical knowledge and expertise in Microsoft office software including Word, Powerpoint, Access, Excel and Project Manager.</p>
4.6.7	Printing and Document Reproduction Services	<p>Service includes maintaining a record of the date and time of job request and the date and time of the job</p>	<p>Refer to: Summary of Jobs by Hours/FY &</p>	<p>Complete work by the established due date.</p>

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4.6.8	Copier Management Services	Service includes coordinating and processing monthly machine count data, allocating cost data, evaluating and distributing copier equipment in accordance with NASA agreements. The Contractor shall coordinate budget and monthly cost data with the NASA SSC Copier Manager.	Copier History File	Summary of Material by Items/FY reports Management NPG: 1490.5A and Quality standards reflect Quality Level III of GPO QATAP unless the requester selects a specific quality level.
4.6.9	Photographic Services	Provide support, labor, and operational supplies for the creation of custom, classified, and non-classified, black and white, color, traditional and digital still images for SSC customers. Work to include the design, development, modifications and implementation of still imaging systems to meet customer requirements which includes specialized processing. Shooting and lighting techniques shall meet customer approval.	Refer to: **Summary of Jobs by Hours/FY & Summary of Material by Items/FY reports**	Work meets customer specifications and requirements Complete all services for Urgent Work within 8 "Core Hours", Priority Work within 16 "Core Hours" and Routine
		Approximately 15% of the work will be urgent work,		Work meets customer specifications and requirements. The Contractor shall comply with the NASA Procedures and Guidelines for Printing, Duplicating, and Copying

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4.6.9.1	Photographers will be required to make aerial photo shoots aboard aircraft, river and sea photo shoots aboard ships/boats.	The Contractor shall provide, operate and maintain an electronic negative and photo library with the ability to retrieve electronically negatives or proofs by number, date, project or title.		A minimum notice of one day (24) hours will be given the Contractor prior to a shooting session. Urgent shoots shall not be subject to a minimum notice requirement.
4.6.9.1	Instant portrait services	Includes official military portraits, employee/personnel portraits, passport pictures, etc., including both black and white and color work.	See paragraph 4.6.9 for workload data	Service customers within ten (10) minutes of their arrival, or availability of the studio, if work is in progress.
4.6.9.2	Custom portrait services	Includes official military portraits, employee/personnel portraits.	See paragraph 4.6.9 for workload data	Instant portrait shall be provided to the customer prior to their departure Service customers within ten (10) minutes of their arrival, or availability of the studio, if work is in progress.
4.6.9.3	Photograph SSC events and projects	Includes a wide variety of subjects, such as ceremonial events, accidents, crime scenes, public affairs functions, newsworthy events, mission activities, resident agency requests, construction projects, environmental,	See paragraph 4.6.9 for workload data	Photographer shall be on scene and ready to shoot no later than 15 minutes before scheduled shoot

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4.6.9.4	Photograph off-site events and projects	Includes a wide variety of subjects, such as ceremonial events, accidents, crime scenes, public affairs functions, newsworthy events, mission activities, resident agency requests, construction projects, environmental, architectural, wildlife, etc. Approximately 10% of the work will be outside "core hours".	See paragraph 4.6.9 for workload data	Photographer shall be on scene and ready to shoot no later than 15 minutes before scheduled shoot time.
4.6.9.5	Provide emergency photography services.	Includes unexpected work at any time outside "core hours, and without the minimum notice.	See paragraph 4.6.9 for workload data	Report to person in charge at specified location no later than 2 hours after notification of urgent requirement
4.6.9.6	Provide copy/duplication services and film processing	Services require the copy/duplication of Contractor or customer generated original material to produce negatives, slides, transparencies and internegatives from prints, slides, negatives, blueprints, artwork, computers, Digital Cameras, etc. NOTE: Services shall include any related film processing and mounting for slides and transparencies.	See paragraph 4.6.9 for workload data	Expose, process, and handle all photographic materials and maintain all photographic processes and processing machines per manufacturer's recommendations and established quality control standards.
4.6.9.7	Produce color copy negatives	Includes the creation of a negative from a photographic print, blueprint, artwork, computer, Digital Camera, etc., when an original negative is not available.	See paragraph 4.6.9 for workload data	Nothing additional

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4.6.9.8	Produce color copy slides and transparencies.	Includes the creation of a slide or transparency from a photographic print, blueprint, artwork, computer, Digital Camera, etc.	See paragraph 4.6.9 for workload data	Color balance of duplicate shall meet or exceed that of the original
4.6.9.9	Produce duplicate color slides and transparencies	Includes the creation of a duplicate color slide or transparency from an existing original color slide or transparency	See paragraph 4.6.9 for workload data	Color balance of duplicate shall meet or exceed that of the original
4.6.9.10	Produce color internegative	Includes the creation of a color internegative from an existing color slide or transparency	See paragraph 4.6.9 for workload data	Nothing additional
4.6.9.11	Develop finished/produced film	Includes both color negative and color slide films. Also includes a proof sheet for negative films, and slide mounting for positive films. NOTE: Workload is reflected in rolls of film. Rolls usually contain 36 exposures, but may contain less.	See paragraph 4.6.9 for workload data	Maintain all photographic processes and processing machines per manufacturer's recommendations and established control standards.
4.6.9.12	Produce color print enlargements	Includes color enlargements ranging in size from 3.5"x5" to 30"x40". Enlargements will be produced from either Contractor or government furnished color negatives in 35MM, 120, or 4"x5" formats. Produce prints with a glossy "F" surface or a matte "N" surface as specified by the customer. NOTE: The vast majority of color enlargements will be done using a high-speed combination printer/processor similar in style to equipment found in "one-hour" photo labs.	See paragraph 4.6.9 for workload data	Expose process, and handle all photographic materials and maintain all photographic processes and processing machines per manufacturer's recommendations and established quality control standards.
4.6.9.9	Produce small machine color prints	Includes color prints sizes from 3.5"x5" to 8"x10". NOTE: Prints will be produced using a high speed combination printer/processor similar in style to equipment found in "one-hour" photo labs.	See paragraph 4.6.9 for workload data	
4.6.9.14	Produce small custom color prints	Includes color print sizes from 3.5"x to 8"x10". NOTE: Prints will be produced by hand using a conventional color enlarger and processed in a separate color print processor.	See paragraph 4.6.9 for workload data	

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4.6.9.15	Produce large custom color prints	Includes color print sizes from 11"x14" to 30"x40" NOTE: Prints will be produced by hand using a conventional color enlarger and processed in a separate color print processor.	See paragraph 4.6.9 for workload data	
4.6.9.16	Mount finished prints	Includes mounting and matting of produced prints. Maintain a wide selection of current mat colors for customer selection.	See paragraph 4.6.8 for workload data	Matte/mounted prints shall be free of air bubbles, wrinkles, or other defects.
4.6.9.17	Collect caption information on select photographic jobs	The customer will identify specific photographic jobs requiring caption information collection. Provide a brief description of action taking place, and the following information for all persons appearing in each photograph: Military: full name, rank and command. Military family members: full name, age (children only), and sponsor's full name, rank and command. Non-military: full name and command/organization.	See paragraph 4.6.9 for workload data	Mounts and mats shall be clean and free of defects. Complete information is collected for all persons appearing in each photograph.
4.6.9.18	Establish and maintain a studio suitable for portrait work	Provide studio services during core hours. Accept appointments. Stock rolls of white and black seamless background paper for portrait and still life photograph. Maintain a painted canvas background, United States Flag and Navy Flag for senior officer portraits.	See paragraph 4.6.9 for workload data	Studio shall present a professional appearance at all times. Backgrounds shall be clean and free of tears.
4.6.9.19	Maintain visual information products for future use.	Label and file visual information products. Includes varying types of visual information products and lengths of retention.	See paragraph 4.6.9 for workload data	Visual information products are correctly labeled and filed upon completion of customer's job.
	Maintain and preserve SSC official photographic collection of archival photos including pictures of set-up designs of large major exhibits (original negatives and captioned print), with associated texts.	Archival photographs shall be environmentally		

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4.6.10.1	NASA Three Year Comprehensive Printing, Duplicating, Copying and Publishing Management Plan **DR 4-GA02**	SSC Printing and Duplicating Statistics for current year . 1 Annually	Submit complete, accurate and timely data	Preserve all archival photos as permanent records. Retain a negative and captioned print of each photo for transfer to the National Archives and Records Administration with index.
4.6.10.2	Annual Information Reproduction Management Reports **DR 4-GA03**	JCP Form No. 1, Printing Plant Report JCP Form No. 2, Commercial Printing Report JCP Form No. 5, Annual Plant Inventory JCP Form No. 7, Excess Equipment Disposal Report with associated forms Government Printing Office statistics	1 Annually	Submit complete, accurate and timely data
4.6.10.3	Annual Audiovisual Report **DR 4-GA04**	Production data for video, audio tapes, other media statistics	1 Annually	Submit complete, accurate and timely data
4.6.10.4	Multimedia production and cost data	Provide production units and cost data by crew,	Monthly and as	Submit complete, accurate

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	DR 4-MAIL	customer organization, product code, category, type (I-V), base and demand, Date/Time received and completed, estimated cost and actual cost. Data shall include work in process. Data shall be electronically provided to the Government in a MicroSoft Excel file.	required	and timely data
4.6.10.5	Copier Management Report **DR 4-GA05**	Provide copier analysis, management activity, usage count, and invoice information. Provide copier use recommendations based on analysis.	Monthly and as required	Submit complete, accurate and timely data in compliance with NASA agreements

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4.7 PUBLIC AFFAIRS SERVICES

4.7.1 SCOPE OF WORK

The contractor shall provide services to the NASA Public Affairs Office at the John C. Stennis Space Center in the areas of Visitors Center operations, media services, History Office, conference facilities and public outreach activities.

4.7.2 General Requirements

Communicate Public Affairs information relating to SSC goals, missions, direction, projects and programs. Also, disseminate this information to the widest practicable audiences as identified by the NASA Stennis Space Center Public Affairs Office.

Contractor training shall remain current with latest technology relative to the execution of this annex.

Travel-The work defined in this contract shall be performed principally at NASA's John C. Stennis Space Center. During the life of this contract, contractor employees will be required to travel to off-site locations to perform tasks defined in this contract.

The NASA logo and insignia shall be correctly represented on all exhibits, materials and publications in compliance with the NASA Graphics Standard Manual (NAB 1430.2).

Overtime – The contractor shall perform work on this contract during normal daytime work shift hours (8 a.m.-4:30 p.m. Monday- Friday, except on government holidays) for NASA at the John C. Stennis Space Center, unless specifically directed otherwise by the Contracting Officer. All requests for changes in work schedule or work hours in excess of the designated work schedule shall be submitted to the Contracting Officer for approval prior to performing the work.

Contractor shall perform work and open and close Visitors Center as scheduled (Monday through Saturday from 9:00 a.m. until 4:00 p.m., and Sundays from noon until 4:00 p.m., except during approved closed dates), with all facilities being staffed and operational including exhibits and movies. Approved closed dates are Easter, Thanksgiving and Christmas.

Contractor shall refer to the Public Affairs Operations Manual (PAOM) for specific information/details and guidelines.

Contractor shall provide Media Services personnel to cover beats consisting of: Propulsion, Technology Transfer, Earth Sciences, Commercial Remote Sensing, Education and Visitors Center.

Contractor shall provide personnel with the following educational/job related experience. For the Media Services group, the personnel must have at minimum a four-year degree in English, Journalism or Communications, be proficient in writing and editing and state-of-the-art desktop publishing, proficient in photography and have a minimum of 2 years related work experience in these areas. For the Visitors Center, the personnel must have a minimum of a two-year degree from an accredited junior college or community college -- with no special area of emphasis required. For the Conference Center, the personnel must have a minimum of a high school diploma. For the History Office, the personnel must have a four-year history degree from an accredited college or university, and four-years' related history or archival experience.

4.7.3 Government-Furnished Property

The contractor shall establish and maintain property management processes, which ensure that all Government-Furnished Equipment (GFE) is utilized for mission-essential purposes, and from which the Government can accurately determine the location of every item, assigned to the contractor's staff. The contractor shall submit to periodic inventories of GFE by the Government's designated

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representative. Contractor staff should not remove GFE from the Government's facility without submitting a written request to the Contracting Officer for approval.

4.7.4 Information Archives

The contractor shall store and manage in the appropriate medium (hard copy and/or electronic) for current and future reference, documents such as media statistics, still photos, produced videos, video scripts, fact sheets, news releases, columns, press kits, brochures, information summaries, biographies, speeches and weekly activity reports according to the most current NASA Records Retention Schedule.

4.7.5 Acronyms and Definition

GFE - Government furnished equipment

GPO - Government Printing Office

PAO - Public Affair Office

PAOM - Public Affair Operations Manual

RTQ - Response to Queries

VIP - Very Important Person/Party

Blue Line - Printer's proof copy

Media Checklist - Approval sheet with names of all reviewing the document, photo considered.

Note to Editors - A short advisory informing media of upcoming events and media opportunities.

4.7.6 Reserve

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4.7.7	MEDIA SERVICES REQUIREMENTS			
4.7.7.1	Publications	<p>Contractor shall generate the publications as listed in the SSC Generated Publications List. Samples of the listed publications are available for review.</p>	<p>See SSC Generated Publications List for frequencies.</p>	<p>All publications should be in compliance with NASA graphics standards (e.g. NASA Graphics Standards Manual NHB 1430.2) and in accordance with the Associated Press (AP) style. All printed products shall contain no grammatical or technical errors.</p>
	Contractor shall produce the <i>Lagnappe</i> newsletter.	<p>12 monthly newsletters ranging from 8-10 pages with one color issue per fiscal year.</p>	<p>Newsletter shall conform to the Publications Guidelines and Standards.</p>	
	Contractor shall update newsletter mailing list, with information supplied by PAO, to assure it is kept current.	<p>See Publications Guidelines and Standards.</p>	<p>Newsletter mailing list to be updated monthly</p>	
	Contractor to issue releases on stories appearing in the newsletter prior to the publication of the newsletter.		<p>Newsletter story news releases to go out one day before newsletter is received from printer.</p>	
	See Guidelines for Release of Information .			
	Contractor shall produce Story Opportunities	2 times per month.	Story Opportunities	

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4.7.7.2	Attend NASA staff meetings	<p>Contractor shall attend NASA staff meetings in the following beat areas: Propulsion, Technology Transfer, Earth Science, Commercial Remote Sensing and Education.</p>	Once per week per beat area.	<p>document for release. This includes the collection, compilation, coordination of approvals for this release highlighting center programs and activities of potential interest to national, regional and local broadcast and print media.</p>
4.7.7.3	Release of Information	<p>Services shall include the following: writing a news release, taking photos, and writing video scripts, as necessary to release to NASA Television (NTV).</p>	Daily.	<p>document to be produced by the 3rd and 17th of every month or next business day. After PAO approval, contractor is to distribute on the 5th and 19th of every month or next business day to media. See Story Opportunities Guidelines.</p>
		<p>NASA Television Stories (NTV) shall meet the Guidelines for the production of NASA TV Video Files.</p>	Attend all NASA staff meetings in beat areas.	<p>document to be produced by the 3rd and 17th of every month or next business day. After PAO approval, contractor is to distribute on the 5th and 19th of every month or next business day to media. See Story Opportunities Guidelines.</p>
		<p>Contractor shall submit a list of news articles for approval to PAO and be responsible for release of information in the form of news, photo or video releases, notes to editors, weekly and monthly newspaper columns and related materials.</p>	120 releases per year.	<p>Contractor shall comply with the Guidelines for Updating Media Information and a copy of the Media Checklist</p>
		<p>Approval Document will be attached to all news or video releases.</p>		

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4.7.7.4	<p>Media Calls, Visits and Interviews</p> <p>Contractor shall respond to incoming media calls and arrange follow-up interviews, materials and information.</p> <p>Contractor shall keep a log of incoming media calls.</p> <p>Contractor shall produce print and broadcast media materials for the general public in support of all SSC media events. Write and coordinate approvals of Notes to Editors inviting media to attend media events, including making follow up calls. Contractor shall escort onsite and offsite media, provide gate clearance, interview coordination and provide an original and copies of print media articles and/or broadcast coverage of the event to NASA PAO.</p>	<p>8 media calls per week.</p> <p>Report statistical data on quarterly review.</p> <p>Notes to Editors to be released to media at least four weekdays prior to the event; follow up calls to be made the workday prior to the event; copies of newsprint coverage due in PAO office by 9 a.m. on the next weekday following event; 3 VHS copies of TV coverage due in PAO by 10 a.m. on the next weekday following event.</p>	<p>Daily within one hour of release.</p>	<p>Contractor to provide final copies of all released materials to PAO within one hour after release.</p> <p>Contractor to notify NASA PAO of all incoming media inquiries within 30 minutes and respond to inquiry within one hour of receiving. See Media Calls/ Inquiries/Visits Procedures.</p>

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4.7.7.5	NASA Television	Contractor shall be responsible for coordinating visits to SSC or SSC off-site events by the media.	6 per month	Contractor shall coordinate all media visits with NASA PAO.
4.7.7.6	Print Media Subscriptions and Clippings	Contractor shall work with program offices and PAO to identify and produce stories for NASA Television (NTV).	One to three per month.	Coordinate video footage for delivery to NASA Headquarters within 48 hours of TV shoot.
4.7.7.8	Home Page	Contractor shall research topics, write scripts, coordinating approvals with program offices and NASA PAO.		See Guidelines for Production of NASA TV Video Files.
		Contractor shall subscribe to national, regional and local print publications as established by PAO list. Contractor shall be responsible for providing clipping service to PAO of all stories related to NASA/SSC and space related articles of interest for delivery to the NASA PAO and to designated program offices.	8 newspapers per week.	News clippings to be provided twice daily to NASA PAO and program offices: 9 a.m. and 2 p.m. M.F. See List of Print Publications Subscriptions.
		Contractor shall assist with the maintenance and review of the NASA/SSC Home Page.	Monthly.	Comply with guidelines found in PAOM.
		Contractor shall assist with the maintenance of the NASA/SSC Home Page. Work with PAO and NASA Information Management Systems personnel to incorporate approved changes.	Monthly.	Comply with guidelines found in PAOM.

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4.7.7.9	Telecons	Contractor shall participate in or provide information to support NASA Headquarters and center-initiated telecons on a variety of program topics.	2 per month.	No instances of unattended telecons without prior approval.
4.7.7.10	Media Tracking	Contractor shall provide status/tracking report of NASA/SSC programs and activities in print and broadcast national, regional and local media coverage by story and publication.	1 per month.	Tracking reports to be delivered to NASA PAO each Friday by 3 p.m. Status/Tracking Report of Print and Broadcast Media Coverage **See DR 4-MA01**
4.7.7.11	Status Meetings	Contractor shall participate in meetings with NASA PAO to discuss project status and/or to plan upcoming media-related activities.	2 per month	Meetings to be held every two weeks, unless otherwise required.
4.7.7.12	Space Shuttle Launch Monitoring and Disaster Duty	Contractor shall participate in Space Shuttle Launch Monitoring Activities and in Disaster Duty. Contractor personnel shall be available to coordinate with NASA PAO, Center Operations and other NASA/SSC program offices to handle all incoming media inquiries during Space Shuttle Launch Monitoring activities and to release approved information to the media during natural disasters (such as hurricanes, tornadoes, floods, etc).	8 times per year.	See Space Shuttle Launch Monitoring Document and Disaster Guidelines.
4.7.8	VISITORS CENTER OPERATIONS			

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4.7.8.1	Staff Visitors Center's Indoor and Outdoor Exhibits and Provide Tours	<p>Contractor shall provide qualified and trained personnel to staff Visitors Center exhibits and provide tours utilizing an approved NASA Public Affairs Tour Guide Script.</p> <p>Tours to be conducted Monday through Saturday at 9:30 a.m., 10:00 a.m., 11:00 a.m., 12:15 p.m., 1:15 p.m., 2:15 p.m. and 3:15 p.m., and on Sunday at 12:15 p.m., 1:15 p.m., 2:15 p.m., and 3:15 p.m.</p> <p><i>See Annex 9.9 Transportation and Drayage.</i></p>	115,000 visitors.	<p>Provide tours per number of visitors as described in 4.7.8.4. See Visitors Center Requirements Guidelines, Exhibit Staffing Guidelines, Visitor Center Tour Guide Script and Visitor Center Tour Stop List/Map.</p>
4.7.8.2	Maintain On-Site Exhibits	<p>The contractor shall ensure that all exhibits are:</p> <ol style="list-style-type: none"> 1. Operational, 2. Scheduled for Repairs, 3. Current 4. Clean. <p>Cost of operation, repairs, updates and cleaning for approximately 83 exhibits.</p>	All exhibits will be operational during the Visitors Center's operational hours.	<p>Provide tours per number of visitors as described in 4.7.8.4. See Visitors Center Requirements Guidelines, Exhibit Staffing Guidelines, Visitor Center Tour Guide Script and Visitor Center Tour Stop List/Map.</p>
4.7.8.3	Solicit Written Feedback From Visitors	<p>Supply and distribute PAO-approved comment cards to visitors, collect them and report results to Public Affairs via Weekly Activity Report.</p>	100 per week.	<p>Surveys turned in to NASA Public Affairs should represent a 3% sampling of total annual number of visitors. See Visitor Center Comment Cards Response Card Results</p>

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4.7.8.4	Provide Visitor Statistics	<p>The contractor shall accurately record the number of visitors received daily, including which states and countries in which visitors reside, and which schools and tour groups are represented.</p>	Updated daily.	<p>Sample and Guidelines for Weekly Activity Reports. See **DR 4-MA02** and **DR 4-MA03**</p>
4.7.8.5	Book and Schedule Tour Groups	<p>The contractor shall schedule groups who wish to visit the Visitors Center and confirm reservations with the group one week prior to visit. In addition, the sole use of the auditorium must be scheduled so that its use will not conflict with walk-in visitor groups and will ensure that adequate staffing is available for groups that have booked the auditorium.</p> <p>The contractor shall report statistical information regarding the number of groups visiting the Visitors Center to NASA Public Affairs Office on the Weekly</p>	<p>33,000 school children per year.</p> <p>Follow established procedures for booking groups. Guidelines for Booking Tour Groups.</p> <p>Follow established procedures for reporting statistical information See</p>	<p>Reported in Weekly Activity Report to NASA Public Affairs. See Report of the Number and Description of Daily Visitor Center Guests and Guidelines for Weekly Activity Reports. See **DR 4-MA02** and **DR 4-MA04**.</p>

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4.7.8.6	Audiovisual Equipment	The contractor shall coordinate the availability of the audiovisual equipment in the Visitors Center auditorium.	Daily.	Fully operative audiovisual equipment.
4.7.8.7	Special Events at the Visitors Center	Contractor shall provide planning and logistical support as well as staffing for a variety of events. Examples: NASA's 40 th Anniversary, LEGO Building Day, GrandOpening of <i>Space Believe</i> exhibits.	Two major events per year, and two minor events per year.	Provide logistical support for special event.
4.7.8.8	Estimate Project Costs and Expenses	Contractor shall provide written estimates to PAO prior to executing projects.	5 to 25 estimates per fiscal year.	Respond to PAO request for estimate by COB within 4 working days.
4.7.9	EXHIBITS PROGRAM			
4.7.9.1	Provide and Display Exhibits at Off-Site Locations	Contractor shall exhibit at events, conventions, etc., following approval by PAO. Provide written proposal with cost estimate, proposed attendees and audience evaluation.	90 exhibits per year.	The contractor will display models and exhibits at off-site locations in accordance with Offsite Exhibits Directive provided by NASA PAO. See Exhibit Evaluation Guidelines

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4.7.9.2	Off-site Exhibitor Knowledge Base	<p>Contractor shall ensure that Visitors Center off-site exhibit personnel have a knowledge base of NASA and SSC history and current programs, projects and activities.</p>	<p>Semi-annual Review.</p>	<p>/Directive and see Exhibit Staffing Guidelines. See **DR 4-MA05** and sample Off-site Information Form and see **DR 4-MA06** sample Off-site Report Card and see **DR 4-MA07** and sample Off-site Exhibit Evaluation Form and see **DR 4-MA08** and sample Footprint and Location Map of Off-site Exhibit.</p>
4.7.9.3	Recommend and Develop Handouts for Public	<p>Contractor shall recommend to PAO development of handouts for Visitors Center and special events at SSC and for off-site exhibits.</p>	<p>6 per year.</p>	<p>Handouts must be provided and distributed for all events.</p> <p>Follow Publication Guidelines and Standards.</p>

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PRESENTATIONS AND DEMONSTRATIONS				
4.7.10				
4.7.10.1	Perform presentations to school groups in Visitors Center	Contractor shall perform educational programs in the Visitors Center auditorium (Early Education Monday, Lower Elementary Aerospace Program, and Intermediate Space Technology Education Program and Star Station One).	2 to 10 per weekr.	Programs will be presented on time and with trained personnel.
4.7.10.2	Develop and Conduct Public Demonstrations	Contractor shall develop, update and perform demonstrations on NASA technologies and programs for various groups such as meetings, conferences, conventions, etc., as requested by NASA Public Affairs.	90 times per year.	Programs will be current, correct and up to date, and must be previewed by PAO prior to public presentation. See **DR 4-MA05** and sample Off-site Information Form and see **DR 4-MA06** and Off-site Report Card and see **DR 4-MA07** and sample Off-site Exhibit Evaluation Form when appropriate.
	Support Visitors Center and Off-Site Demonstrations	Contractor shall recommend any models, props, and/or artwork needed to augment demonstrations and propose cost estimate to NASA Public Affairs.	One per month.	Demonstrations must correctly represent information and be safe for public viewing and participation. Proper audio support must be used.
4.7.10.3	Develop and Schedule a Summer Reading Program	Develop and schedule a summer reading program.	One per year.	Provide plan and schedule.

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4.7.10.4	Summer Day Camps for Youth (Astro camp)	<p>Contractor shall submit a detailed activity plan to PAO by April 15. Dates for sessions and draft agenda must be planned by February to accommodate anticipated calls from parents and publicize the activity(s) to enlist enrollment. Accurate and orderly list of pre-registrations must be maintained.</p>	<p>One per year. For a minimum of 2 and a maximum of 4 camps.</p>	<p>See **DR 4-MA09** and see sample Summer Reading Program Plan/Schedule.</p>
4.7.10.5	Education Stage Programs	<p>Contractor shall conduct Astro Camp programs according to submitted and approved plan.</p> <p>Contractor shall develop and perform PAO approved programs to groups and oversee registration and all camp activities and coordinate all logistics, for instruction, transportation, food services, etc.</p>	<p>4-6 per year Annually.</p>	<p>According to approved plan. Programs completed according to written requested schedule.</p>

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4.7.11	VISITORS CENTER AWARENESS CAMPAIGN			
4.7.11.1	Public Outreach Activities			
	<p>Contractor shall present a written plan to PAO for review on how to publicize the Visitors Center with special emphasis on the communities of Mississippi and Louisiana. Contractor shall establish and maintain personal communications with these offices in order to be included in area promotions and publications.</p> <p>Contractor shall ensure that the plan includes recommendations on how to involve the convention and tourism bureaus, welcome centers, communities' civic organizations, educational institutions, chambers of commerce, tour groups, bus tour companies, etc.</p> <p>After PAO approves the plan, contractor shall proceed with the plan.</p> <p>Contractor shall provide a report of what actions have been taken, results and upcoming plans.</p>	<p>Once per week.</p> <p>Annually.</p>	<p>Annually.</p>	<p>Provide written plan per **DR 4-MA10** and see sample Visitor Center Awareness Campaign Plan</p>
4.7.11.2	Disseminate Visitors Center Information to News Media			
	<p>Contractor shall provide information to news media on events, exhibits, receptions, etc. and obtain PAO approval of all information prior to release</p> <p>Provide written and/or verbal information to media, meeting their established deadlines and specific interest for publication or broadcast.</p>	<p>Weekly.</p> <p>See ** DR 4-MA02** and sample Weekly Activity Report.</p>		

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4.7.11.3	Produce and Distribute a Visitors Center Flyer	Contractor shall design, write and produce a quarterly flyer on events and programs at the Visitors Center. Develop a PAO approved mailing list to include the schools, Scout troops and church youth groups. Mail flyers according to pre-approved schedule upon PAO approval of both.	4 per year.	In accordance with SSC Publications List.
4.7.12	SPECIAL EVENTS			
4.7.12.1	VIP Tours	<p>The contractor shall provide material and personnel support to the NASA SSC Public Affairs Office (PAO) for all VIP tour activities.</p> <p style="text-align: right;">FY93/60 FY94/66 FY95/95 FY96/105</p>	<p style="text-align: center;"><u>VIP Tours:</u> FY93/60 FY94/66 FY95/95 FY96/105</p> <p style="text-align: center;">110 per fiscal year.</p>	<p>110 per fiscal year and no unsupported tours.</p>
		<p>The contractor shall provide VIP tours and a tour guide and an appropriately sized vehicle.</p> <p>SSC VIP tours may include, "any" part of the SSC site designated by the VIP Tour Coordinator. Changes to the VIP tour agenda may be submitted at any time.</p> <p>The contractor shall provide VIP packets and/or</p>		<p>The NASA SSC VIP Tour Coordinator will submit support requests to the contractor via fax or e-mail. This form of request will be at the discretion of NASA PAO.</p>
		<p style="text-align: center;"><u>VIP Pkts:</u></p>	<p style="text-align: center;"><u>VIP Pkts:</u></p>	

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	associated materials to the specified visitors.			
	The contractor shall follow a specified checklist for routine requirements for each VIP request. See VIP Tour Procedures and Checklist .	The contractor shall submit VIP tour evaluation forms to the requester for response.	110 per fiscal year. See VIP Tour Evaluation Form Guidelines and sample VIP Tour Evaluation Forms	2,000 Full compliance with the VIP Tour Procedures and Checklist and with Conference Center Requirements Guidelines
4.7.12.2	Center Director/PAO Launch Guest Operations	The contractor will provide support to the NASA/SSC Public Affairs Office (PAO) for all Center Director Launch Guest activities.	3 launches per year.	FY93/1,793 FY94/1,568 FY95/2,302 FY96/1,468
	Contractor shall provide SSC VIP packets, typed name tags for launch operations guests, associated launch handouts and materials.	150 VIP packets per year.	To be mailed to the appropriate hotel 1 week before launch date.	
	The contractor shall submit written or typed material request to the selected hotel and catering company to cover associated guest operation bookings and food requirements.	3 per year.	The contractor shall submit a copy of the material request to the Launch Guest Operations Coordinator each new FY and the contractor shall	

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4.7.12.3	Speakers Bureau			
		The contractor shall provide material and personnel support to the NASA SSC Public Affairs Office (PAO) for all Speakers Bureau activities both on and off-site. All NASA/ SSC speaking requests will be coordinated by the NASA PAO Speakers Bureau Coordinator.		submit to the Guest Operations Coordinator copies of all invoices relative to launch guest activities.
			<u>Speaking Engagements:</u> FY93-46 FY94-31 FY95-40 FY96-41 55 speaking engagements per fiscal year.	
4.7.12.4	Conference Center Support	Contractor shall provide logistical support services and materials for Center driven meetings.	Daily. See Conference Center Requirements Guidelines.	
		Contractor shall be responsible for operating and maintaining equipment: front and rear screen projection capabilities, audio system, overhead equipment for viewgraphs, 3 1/2 inch floppy disk projection system, TV monitor and VCR to accommodate PowerPoint or any software presentations.	Daily. See Conference Center Requirements Guidelines.	
		Contractor shall coordinate the availability of computers with updated hardware and software with e-mail capability, faxes, telephones and qualified communications personnel with all associated cables	The average one piece of equipment is	
			Daily. Faxing, copying, taking phone messages, room and equipment set up, trouble-shooting, etc. See	

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4.7.13.2	Contribute in Document Processing Procedures	Contractor shall follow the established procedures found in the History Office Desk Guide.	Daily.	See Conference Center Requirements Guidelines.
4.7.13.3	Disposition of Records Procedures	The contractor shall participate in the placement of documents in appropriate order according to the NASA Records Retention Schedule.	Daily.	See History Office Desk Guide and NASA Records Retention Schedule NHB 1441.1B.
4.7.13.3	Capture Historically Significant Documents	The contractor shall assist the non-contractor	1,250 per year	Follow the History Office

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4.7.13.4	Respond to Requests for Research	graduate students assigned to the History Office in the review and identification of historically significant documents.		Desk Guide.
4.7.13.5	Statistical Tracking of Documents	The contractor shall respond to all relevant requests for historical information in the form of: walk-in requests, telephone requests, and traditional and electronic mail requests received by the History Office.	150 per year	The contractor shall fill research requests within five working days of request initiation. See History Office Desk Guide for sample research request form.
4.7.13.6	Correct History Office Database Problems or Errors	The contractor shall track the amount (in linear feet) of documents received by the office each month that potentially will be added to the office's records collection. The contractor shall provide this information in writing to the History Office Monitor, once per month.	Once per month, by the 5 th of the month or the next working day.	See **DR 4-MA02** and sample Weekly Activity Report.
	Activity Report	The contractor shall make arrangements for the correction of any and all problems and errors in the History Office computer database that could cause a work stoppage, including downtime, repairs and/or upgrades. Any corrections needed, made or not made to the database shall be reported via the Weekly Activity Report.	Any corrections needed, made or not made to the database will be reported on the Weekly Activity Report.	Written notification of the inability to make corrections of problems and/or errors within three working days by close of business must be made immediately to the NASA SSC History Office Monitor. See **DR 4-MA02** and sample Weekly Activity Report.

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4.7.13.7 Perform Data Entry

The contractor shall perform History Office data entry services for the office.

30 entries per day

The contractor shall perform all required data entry.

4.7.13.8 Arrangement of Repairs to or Replacement of Office Equipment

The contractor shall make arrangements for the immediate request and accomplishment of repairs to or replacement of any and all office equipment, furniture, computer software and facilities in order to avoid work stoppages should be reported on **Weekly Activity Report**.

Any repairs, replacements and action taken will be reported to the History Office Monitor on the weekly activity documentation.

Inoperative office equipment, furniture, and facilities will be reported to the NASA SSC History Office Monitor. See ****DR 4-MA02 **and sample Weekly Activity Report**

4.7.13.9 Coordinate History Office Participation in Historical Programs

The contractor shall coordinate, in association with NASA History Office Monitor, the History Office's participation in historical and outreach programs.

10 times per year.

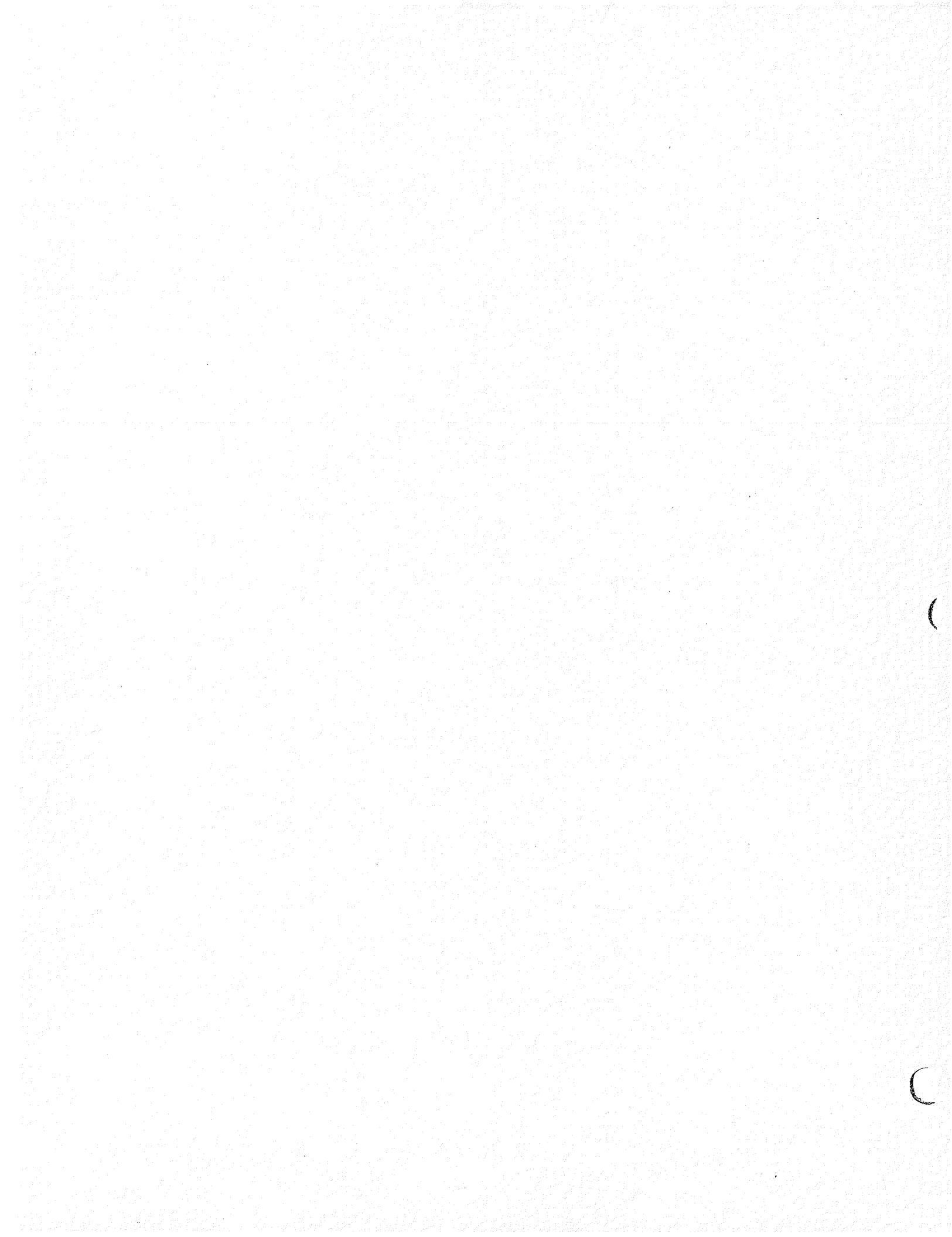
Coordinate all required historical programs.

EDUCATION SERVICES

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4.8 EDUCATION SERVICES

The Contractor shall provide Education Services at the Stennis Space Center (SSC) as defined in this Annex and in support of the NASA SSC's Strategic Plan for Education.

4.8.1 GENERAL REQUIREMENTS

4.8.1.1 Management and General Requirements.

The contractor shall furnish all resources as specified in Annex 1. Contractor to provide state-of-the art training so as to remain current with the latest educational technology.

4.8.1.2 Hours of Operation.

The Educator Resource Center (ERC) located in the basement of Building 1200 will be open to the public during the hours of 9:00 a.m. to 4:00 p.m. Monday through Friday, except Holidays. The Li'l Red School House, (Bldg 2409), Trend 2000 facility (Bldg 1200) and Mississippi Interactive Video Network Classroom (MVN) facility (Bldg 7001) will be generally open from 8:00 a.m. to 4:30 p.m., and at other times as needed for special events.

4.8.1.3 Public Interface.

The (ERC) personnel will serve as NASA's interface to the education community by disseminating information, answering phone requests, and greeting all on-site visitors to the ERC.

4.8.1.4 Communication.

Any employee whose job requires contact with the public must be able to effectively communicate in the English language.

4.8.1.5 Reserve.

4.8.1.6 Definitions and Acronyms.

EDCATS - Education Division Computer Aided Tracking System
CEU - Continuing Education Units
IRCERT - International Registry for Continuing Education in Training
Media Checklist - Approval sheet with name of all reviewing the document.

4.8.1.7 Facilities.

Facilities covered in this Annex are Educator Resource Center (Building 1200), Li'l Red School House (Building 2409), and Mississippi Interactive Video Network Classroom (MVN) (Building 7001).

4.8.1.8 Government-Furnished Equipment.

The Government will provide, without cost to the contractor, equipment and material listed in Attachment J-10, List 1 and List 2. The Government furnished equipment shall be maintained and managed in accordance with the guidelines set forth in Annex 1.

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<u>Item No.</u>	<u>Performance Requirements</u>	<u>Related Requirements or Information</u>	<u>Workload Data</u>	<u>Minimum Standard</u>
4.8.2	EDUCATION SERVICES			
4.8.2.1	Conduct Educator Workshops			
4.8.2.1.1	Prepare workshop schedule	Identify topics requested by customers. Determine the number needed to meet known anticipated needs. Identify intended learning outcomes for each workshop. Determine and schedule qualified presenters.	3 Annually	Workshops will be presented on time and with trained <u>and NASA approved presenters</u> .
4.8.2.1.2	Prepare and disseminate workshop brochure	Determine layout wording and conduct proofreading. Consult with printer. Update database and prepare labels. Prepare for mailing.	3 Annually	Brochures will be current, correct and up to date, and must be reviewed by NASA Education office prior to mailing.
4.8.2.1.3	Conduct Workshops	Welcome participants and present agenda. State intended learning outcomes. Present workshop material through lecture, demonstration, and/or hands-on participation. Answer questions. Assist participants in using NASA's Education Division Computer Aided Tracking System (EDCATS) electronic evaluation tool to evaluate workshop.	80 workshops Annually	Workshops must be current, correctly represented information, be professionally presented and be safe for participation. Proper audio support must be used. Workshops must meet Contingency Education Units (CEU) requirements of the (RCET).
4.8.2.1.3.1	Workshop registration logistics	Prepare registration booklet. Prepare computer database for data entry. Register participants in workshop registration booklet via phone, fax, and/or mail. Input Workshop registration data into computer database. Prepare and mail participant confirmation letters. Send workshop participant names to security. Prepare workshop participant certificates.		Confirmation letters will be mailed to reach participants at least one week before workshop. Names must be provided to security 48 hours before workshop. Participant certificates will be disseminated at end of

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4.8.2.1.3.2	Prepare content, activities, and agenda	Determine and prepare appropriate workshop activities. Gather materials and activity handouts. Prepare visuals and participant materials.		workshop.
4.8.2.1.3.3	Conclude and evaluate workshop.	Collect funds from participants desiring continuing Education Unit (CEU) credits. Issue receipts to participants. Instruct participants on the use of the computer to complete necessary forms to receive CEU credits. After all participants have left, collect workshop tools and restore facility to standard form.	Complete, accurate and timely information.	Correlate content and activities to state and national education standards.
4.8.2.2	Facilitate Educator Workshops	Prepare deposit slip for Finance Department listing each participant requesting CEU credit. Deliver participant registry fees and deposit slip to Finance Department for issuance of check to the International Registry for Continuing Education in Training (IRCET). Retrieve participant information from computer and prepare a computer disk for each workshop and forward to the IRCET. Delete all computer files generated during the workshop. Analyze participant evaluation for future improvements.	Information input by either contractor or participant using IRCET software and as required by IRCET. 90 Percent positive feedback required from customer.	
4.8.2.3	Conduct Offsite Presentations	Receive request for workshop support. Schedule requirement. Facilitate workshops as required by customer.	100 Annually Resolve conflicts with other scheduled events. 90 Percent positive feedback required from customer.	
		Arrange for travel to presentation location. Set necessary equipment. Conduct offsite presentation at locations throughout the United States. Answer questions.	24 Annually Programs will be presented on time and with trained personnel. Entire presentation received and approved at least two days prior to being conducted. Proper equipment will be	

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4.8.2.3.1	Receive Customer Request for Presentation	Determine the need of the customer. Define with the customer, the content of the presentation. Determine audio/visual equipment requirements		used. 90 Percent positive feedback required from customer.
4.8.2.3.2	Prepare Presentation	Conduct research to gather necessary information. Determine appropriate medium for presentation. Solicit required approvals and review and practice. Prepare necessary property passes for equipment to be taken to presentation site.		Presentations will be current, correct and up to date. Proper audio/visual support must be used.
4.8.2.3.3	Conclude and Evaluate Presentation	Receive requests for additional information. Analyze evaluations (when conducted) for future improvements and/or changes.	Report to NASA Education Office of recommended improvements and/or changes.	Conformance with NASA Handbook 4200 and SSC Security manual for property removal. Equipment removal must be scheduled and agreed upon by education staff.
4.8.2.4	Manage Information Dissemination			
4.8.2.4.1	Maintain and Replenish Stock	Prepare and fax order form for materials to be ordered from NASA Headquarters. Receive and shelf material for efficient distribution.	Daily	Organize educational materials according to grade level and subject. Reproduce when there is a shortage of stock on hand.
4.8.2.4.2	Assemble Educator Packets	Select items including lesson plans, posters, general publications and lithograph. Roll posters to have available for educators. Work with visitors' center to determine how many educators will be visiting. Coordinate with Public Affairs Office (PAO).	3500 Annually	Organize according to grade level. Packets are to be made up at least 1 day prior to visit.
4.8.2.4.3	Process Video Tape Duplication	Prepare and update video catalog listing titles available	600 Annually	Complete, accurate and

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	Requests	for duplication. Distribute catalogs. Receive and log video orders. Duplicate videos in real time. Return completed orders to educators by arranging pickup or by packaging order and returning by mail.		
4.8.2.5	Manage and Conduct Projects	Receive request for project from customer. Determine resources required for project. Prepare project plan including budget. Enlist partners. Conduct planning meetings as required. Conduct meetings. Continuously monitor and evaluate progress and customer satisfaction. Conclude project.		
4.8.2.5.1	Long-Term Projects	Same as 4.8.2.5. Projects equal to or greater than one year.	8 Annually	Prepare formal and informal progress reports. Prepare final evaluation upon completion of project.
4.8.2.5.2	Short-Term Projects	Same as 4.8.2.5. Projects less than one year except as liaison support in a remote site from SSC	26 Annually	Complete NASA approved projects based on customer requirements and satisfaction.
4.8.2.5.3	Special Projects	Same as 4.8.2.5. Except as liaison support in a remote site from SSC.	4 Annually	Same as 4.8.2.5
4.8.2.6	Manage Computer Lab Operations	Maintains material and supplies to operate facilities.	Weekly	Adequate supplies for all activities
4.8.2.6.1	Maintain Computer Labs in Buildings 1200, 7001 and 2409.	Log all problems and coordinate/expedite repair with the ODIN contractor. Maintain temporary folders and delete contents after each workshop. Evaluate performance of all required software and recommend upgrades as necessary. Provide basic cleaning of equipment. Maintain room arrangement. Contractor must be readily available to address computer problems during lab time.		Report and facilitate software failures and upgrades. All lab equipment must be up to date, and function properly during hours of operation.
4.8.2.6.2	Maintain All Other Educational	Log all problems and coordinate/expedite repair.		All other education

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	Technology Assets	Maintain stock of required expendables associated with equipment. Contractor must be readily available to address problems during operation time.		technology assets must be up to date, and function properly during hours of operation.
4.8.2.6.3	Maintain Property Tracking and Control System	Manage database of all educator resource technology assets. Maintain procedure for checking out equipment and ensuring timely return.	Conformance with NASA Handbook 4200 and SSC Security manual for property removal.	
4.8.2.7	Education Media Services	See sections below.	Release of information will be coordinated through NASA Education Office and NASA Public Affairs Office (PAO) prior to release. Release of Information must follow format as directed by NASA PAO guidance. Media calls should be coordinated through NASA Education Office. Printed material should have no grammatical or technical errors. Contractor should provide draft newsletter to NASA Education Office one week prior to printing. Final draft should be presented to Chief, Education and University Affairs two days prior to printing. Contractor shall be prepared to produce information from archives	

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4.8.2.7.1	Media Awareness	Develop and implement public awareness campaigns and special events to promote the understanding of NASA Education programs goals and accomplishments. Use all types of media to raise awareness among the general public, special interest groups, and public and private organizations.	Daily	In accordance with para 4.8.2.7
4.8.2.7.2	Prepare Media	Develop, write, and edit brochures, reports, press releases, bulletins, letters and other materials for general assignment reporters from print, broadcast, and electronic media, consumers, businesses, and press. Determines how best to present the information, and prepares and disseminates the material to appropriate audiences.	Daily	In accordance with para 4.8.2.7
4.8.2.7.3	Distribute Media	Disseminate information through national and local media, and existing channels of communication within target groups or organizations. Identify new means of information dissemination when established channels are not available.	Daily	In accordance with para 4.8.2.7
4.8.2.7.4	Respond to Inquiries	Answers inquiries about Education programs from a variety of audiences, and ensure that the needs of particular individuals and groups for more information are quickly and fully satisfied. Direct inquiries to proper sources for assistance.	Daily	In accordance with para 4.8.2.7
4.8.2.7.5	Media Information Storage	Contractor shall maintain all media services material. Photos, exhibits, videos, news releases, press kits, brochures, biographies and speeches are to be stored	In accordance with para 4.8.2.7	within one hour of request being from NASA Education Office staff. Reports are due each Monday of previous weeks events.

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4.8.2.7.6	Media Reports	Provide activity reports on media-related activities for previous week.	Weekly	In accordance with para 4.8.2.7
4.8.2.7.7	Education Office Newsletter Production	Contractor shall produce the NASA Education Office newsletter. This task includes compiling information, writing, editing, coordinating all necessary approvals, inserting appropriate graphics and/or scanned or original photo images, proofing, layout, editing, coordinating and monitoring printing and distribution. Contractor to meet with Education Office personnel to discuss content, story ideas, possible photos, layout and design.	12 monthly newsletters ranging from 5-6 pages.	Provide draft for approval to Education Office personnel one week prior to going to printers and final draft two days prior to printing.
4.8.2.8	Personnel Requirements	ERC staff will attend state and national conferences. Determine conferences best suited for staff development. Coordinate attendance with other ERC activities to minimize impact to ERC schedule. Attend and participate in conferences. Share information/techniques learned with remainder of staff. Subscribe to professional journals.	12 Annually	Education Office to provide topics & stories.
4.8.2.8.1	Plan for continuous Staff Development of ERC Staff	Subscribe to and read at least six professional journals. Complete all necessary paperwork for travel, registration, and evaluation.	Weekly	Contractor will report to NASA Education office of educational technology changes through email, conferences or telecon.
4.8.2.8.2	Maintain Awareness of State-Of-The-Art Knowledge in Educational Technology Through Trade Journal Reading.	Attend conferences and trade shows related to education technology. Determine conferences and trade show best suited for acquiring state-of-the-art knowledge. Coordinate attendance with other ERC activities to minimize impact to ERC schedule. Attend and participate. Share information learned with	4 conferences annually	Contractor will report to NASA Education office of educational technology changes through email, conferences, written reports or telephone.
4.8.2.8.3	Maintain Awareness of State-Of-The-Art Knowledge in Education Technology Through Trade Show/Technology Conference Participation.			

ANNEX 4.8
EDUCATION SERVICES

<u>Item No.</u>	<u>Performance Requirements</u>	<u>Related Requirements or Information</u>	<u>Workload Data</u>	<u>Minimum Standard</u>
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remainder of staff. Complete all necessary paperwork for travel, registration, and evaluation.

4.8.2.9 **Electronic Journal** Create and maintain NASA Education Office Electronic Journal.

Daily Current and Accurate

4.8.2.9.1 **Design, create and maintain Education and University Affairs Office Electronic Journal** Determine tools and equipment best suited to provide state-of-the-art technology and design. Determine the need of the customer. Define with the customer, the content of the electronic journal. Conduct research to gather necessary information of changes in technology. Solicit required approvals before placing information on journal.

Input data into development page and send to NASA point of contact within 48 hours of receiving information from sources and place on electronic journal within 24 hours of approval from Chief, Education and University Affairs.



Annex 4.0

**PERFORMANCE REQUIREMENTS
SUMMARY**

CONTRACTS REQUIREMENTS		PERFORMANCE REQUIREMENTS					
(1) ITEM NO.	(2) CONTRACTS REQUIREMENT	(3) WEIGHT (%)	(4) SURVEILLANCE METHOD	(6) WORK REQUIREMENT	(6) WEIGHT (%)	(7) STANDARD OF PERFORMANCE	(8) MAD
ANNEX 4.0 (INSTITUTIONAL SERVICES)							
1	Provide Food Services (Annex 4.2)	15%	RR, PI, UPI, VCC	Operate cafeteria on a break even concept providing complete breakfast and lunch each day in accordance with established menus and schedules.	100%	Maintain customer count at 25% of SSC population and monthly P&L net margin at + - 5% and annual margin at + - 2%. Have no sanitary deficiencies.	3
2	Mail Services (Annex 4.3)	5%	UPI, VCC	Timely pickup and delivery in accordance with the SSC Mail Management Guide	100%	Meets customer requirements in accordance with contract requirements	10 complaints
3	Custodial Services (Annex 4.4)	20%	PI, UPI, VCC	Provide comprehensive janitorial services and cleaning services for all floor, glass, and wall surfaces, including removal of trash from trash cans, in accordance with established schedules.	100%	All floors shall be free of all laden airborne dirt, liquid, heel marks, soil, lint and foreign material.	9 complaints

Annex 4.0**PERFORMANCE REQUIREMENTS SUMMARY**

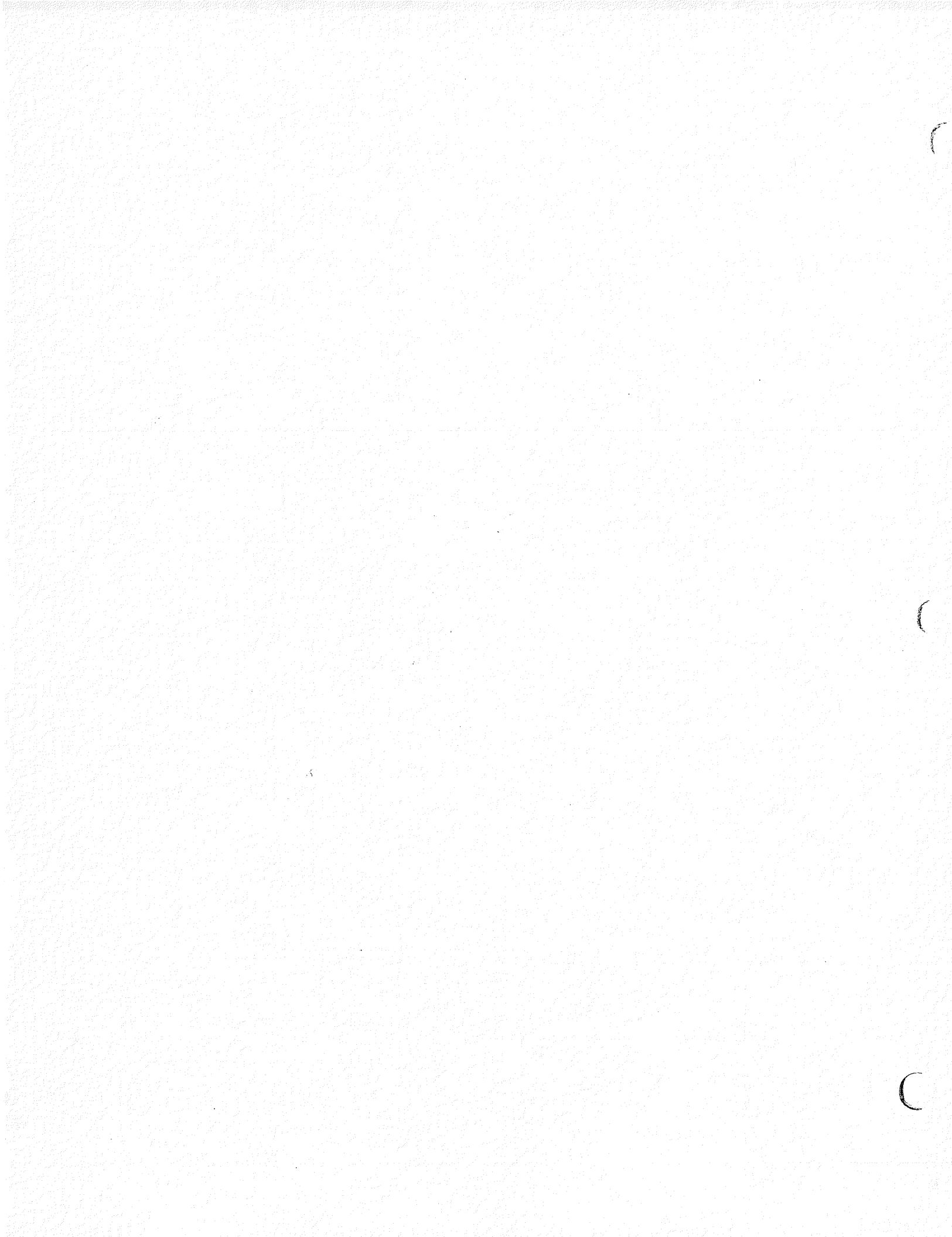
CONTRACTS REQUIREMENTS		PERFORMANCE REQUIREMENTS					
(1) ITEM NO.	(2) CONTRACTS REQUIREMENT	(3) WEIGHT (%)	(4) SURVEILLANCE METHOD	(6) WORK REQUIREMENT	(6) WEIGHT (%)	(7) STANDARD OF PERFORMANCE	(8) MAD
ANNEX 4.0 (INSTITUTIONAL SERVICES)							
4	Perform Fire Protection Services (Annex 4.5)	20%	PI, UPI, RR	Respond to all alarms with two qualified, fully staffed and properly equipped engine companies and implement appropriate fire fighting and rescue procedures.	50%	Initiate response within 2.5 minutes with two fully staffed and trained personnel and with properly maintained and operable equipment.	1
5	Provide Multimedia Services (Annex 4.6)	15%	RR, PI, UPI, VCC	In accordance with the work statement, provide a comprehensive range of graphics, publications, artwork, printing and photographic services and provide reasonable cost estimates based on the SSC work request provided by customer.	100%	Produce and deliver quality products on time and within costs as agreed to by the customer	15%

Annex 4.0**PERFORMANCE REQUIREMENTS
SUMMARY**

CONTRACTS REQUIREMENTS		PERFORMANCE REQUIREMENTS					
(1) ITEM NO.	(2) CONTRACTS REQUIREMENT	(3) WEIGHT (%)	(4) SURVEILLANCE METHOD	(6) WORK REQUIREMENT	(6) WEIGHT (%)	(7) STANDARD OF PERFORMANCE	(8) MAD
ANNEX 4.0 INSTITUTIONAL SERVICES)							
6	Provide Public Affairs Support (Annex 4.7)	15%		Release or distribute approved information, support all programs/functions conducted and collect/maintain appropriate documents and databases.			
			RR, PI, UPI, VCC	Timely Accomplishment	40%	Comply with PAOM.	15%
			RR, PI, UPI, VCC	Quality of Work	40%	Comply with PAOM.	15%
			RR	Maintain Required Documentation	20%	Comply with PAOM.	15%
7	Education Services (Annex 4.8)	10%	PI, UPI, VCC, RR	Provide comprehensive educational services in accordance with the statement of work which includes conduct and facilitate workshops, make on-site and off-site presentations, manage information dissemination, provide educator media services and provide property management services.	100%	All services in Annex 4.8 shall be performed as scheduled and specified.	15%

Annex 5.0

Facility Maintenance and Operations



Facility Maintenance and Operations

5.1 GENERAL INFORMATION

- | | | | | | | |
|--|--|--|------------------------------------|--|------------------------------|---------------------------|
| 5.1.1
Annex
Description | 5.1.2
Contractor
Responsibility | 5.1.3
Equipment
Replacement | 5.1.4
Tree
Diagrams | 5.1.5
Equipment
Numbering
Tagging | 5.1.6
Definitions | 5.1.7
Acronyms |
|--|--|--|------------------------------------|--|------------------------------|---------------------------|

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FACILITY MAINTENANCE & OPERATIONS
ANNEX 5.1
GENERAL INFORMATION

1 GENERAL INFORMATION

1.1 Annex Description

This annex provides definitions and general information which relate to performance of facility maintenance and operations at Stennis Space Center described in Annex 5 that is subdivided as follows:

- 5.1 General Information
- 5.2 Preventive Maintenance
- 5.3 Corrective Maintenance
- 5.4 Operations
- 5.5 Availability
- 5.6 Special Operations and Maintenance Test Complex
- 5.7 Facility Inspections Programmed and Planned Maintenance
- 5.8 Grounds Maintenance and Integrated Pest Management Services

The facilities are all located within the boundaries of the SSC fee area and include facilities occupied by NASA, NASA contractors, Resident Agencies and their contractors.

1.2 Contractor Responsibility

The Contractor shall be responsible for performance of Preventive Maintenance (PM), corrective Maintenance (CM), Operations, System Availability, and all other work specified. The Contractor shall use the following documents, lists, tables, databases, and geographical boundaries to further define the scope of the Contractor's responsibility:

- 2. The **MAXIMO equipment database** (available at TRL) identifies numbered equipment and gives criticality for each. For proposal purposes, the baseline is the data in the RFP Workload Data. Where is a difference in the RFP Workload Data and the MAXIMO database in the TRL, the RFP Workload Data will govern.
- 3. The Specified Structures and Facilities List (Exhibit 8) identifies the structures and facilities included in Structures Facilities Utilities, Systems and Subsystems (SFUSS).
- 4. The IAGP List (J-10, List 1 and List 2) identifies equipment for which the Contractor has Maintenance and Operations responsibility.
- 5. The **Facilities Assignment and Maintenance Responsibilities Plan (FAMRP)** (available at TRL) identifies SFUSS and IAGP for which the Contractor has M&O responsibility. Additionally, it identifies the appropriate budget account to be assessed.
- 6. The **Master Facility Plan** (available at TRL) defines the geographical boundary of the SSC fee area. The NASA portion of this area contains all SFUSS and IAGP for which the Contractor is responsible.

5.1.3 Equipment Replacement

Equipment covered under this annex may be replaced when it reaches "end of service life" or becomes uneconomical to repair in accordance with the PM plan. Replacement of this equipment in-kind (including upgrade to accommodate equivalent modern technology) shall not relieve the Contractor of the responsibility of continued performance of specified work within Annex 5. The Contractor shall begin maintenance and operations of such replacement equipment as soon as it is placed in service. Where applicable, equipment numbers shall be assigned and installed.

5.1.4 Tree Diagrams

The Lead Page(s) in Annexes 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7 and 5.8 are pictorial tables of content or "Tree Diagrams" of the requirements in each individual Annex. They are

Table 5.1-1 This table identifies and defines major systems, Subsystems, and units such as 13.8 KV Electrical System, Potable Water-System, Sanitary Sewage System, Energy Management and Control System, Natural Gas System, Marine System, Mechanical Systems, and Other Systems.

FACILITY MAINTENANCE & OPERATIONS
ANNEX 5.1
GENERAL INFORMATION

included to help understand the layout of the performance work statements. They are not intended to be a guide or even a suggestion of what you personnel structure should be.

5.1.5 Equipment Numbering/Tagging

Corrections to the Computerized Maintenance Management System (CMMSS) Equipment Database shall be accomplished in accordance with 5.2.2.3.

5.1.6 Definitions

The following are definitions for Annex 5. See Annex 1 for additional definitions that may relate to this annex.

Augmentation: The method to be used to augment the core work force to handle additional work for each sub-annex.

Biennially: Also called 2-year Frequency. Activities accomplished 1 time during each 24 month period of the contract, at intervals of 23 to 25 months. 50% of the Biennial Tasks shall be completed each year under any given task sheet.

Backlog of Maintenance and Repair (BMAR): The unfunded facilities maintenance work required to bring facilities and collateral equipment to a condition that meets acceptable facilities maintenance standards.

Base: See Institution

Buffer Zone: An area of 125,071 acres surrounding the fee area . All activities within all portions of this zone are subject to specific easement provisions. These provisions specify that habitable buildings cannot be erected, however, farming livestock raising, pulpwood and timber operations, and mining activities are allowed.

Collateral Equipment: See equipment definition from **Facility Maintenance Handbook**.

Common Use Areas: Facilities and/or portions of facilities, to which access is afforded and which are constructed, maintained and operated specifically for, but not incidental to, the benefit of all SSC residents. Common use areas include entry and hallways, stairs and stairwells, restrooms, and vending areas within dedicated facilities. Access restrictions, for security or other reasons, does not alter this definition.

Criticality Level:

Level I - Safety and/or Environmental Impact

Level II - Mission Operational Impact

Level III - Significant Operational Impact (replacement cost)

Level IV - Personnel Costs (loss of facility use)

Level V - Non-Critical

Debris: For purposes of this annex, debris is defined as any trash, wastepaper, gum, limbs, leaves or other matter lying scattered about which is foreign to its surroundings; e.g., leaves/rocks in equipment areas, or other items not placed or intended for the given location.

Energy Management and Control System (EMCS): A computerized system for monitoring and controlling systems and equipment through an integrated network of microprocessor based controls.

Facilities: A facility is an enclosed structure to protect personnel, material or equipment from the elements and provide associated work or storage space. For purposes of this contract, a facility includes the utility systems inside the building/structure and extends five feet from the facility or as otherwise defined.

- (1) Architectural. Includes (interior/exterior) doors; windows; flooring (coatings and coverings); stairs and stairwells; interior walls, ceilings, and partitions.

FACILITY MAINTENANCE & OPERATIONS
ANNEX 5.1
GENERAL INFORMATION

(2)	Structural. Includes foundation; structural system; building shell; roof; external attachments (e.g. walkway covers, overhangs, loading docks, etc); and facilities water collection and drainage system.	2	Urgent	Maintenance or repair work should be completed to ensure continuous operation of the facility and to restore healthful environment. Not a life-threatening emergency.
(3)	Electrical. Includes electrical wiring and lighting, hardware, and panels; power for equipment up to the point of disconnect, grounding or lightning arresting systems; alarm systems and communication equipment (excluding telephones).	3	Priority	Work that is to support the mission on a priority basis or to meet project deadlines. Complete before starting new Priority 4 (routine) work.
(4)	Mechanical. Includes all equipment, components and controls associated with the following systems as well as components located outside the facility: HVAC; plumbing; compressed air; steam; fire suppression; gas; boilers, furnaces; and generators.	4	Routine	Facilities maintenance work that can be scheduled routinely within the capability of the facilities maintenance organization. Complete in order of receipt, subject to availability of resources, and consolidate by facility or zone or as directed to obtain efficiency of operation.
(5)	Building Specialty. Includes installed equipment within the facility such as food service and processing equipment; appliances; elevators; automatic doors; roll-up doors; blast doors; vehicle gates; waste disposal equipment; shop equipment and hoists; and Visitor Center exhibits.			Institution or base: For purposes of this contract Institution and Base are used interchangeably. Institution refers to those facilities and equipment that are in the fee area, west of a line parallel to and 1000 feet west of D road and excludes all Test Complex structures, facilities and utilities, and the Army Complex.
	Fee Area: An area of approximately 25 square miles (13,800 acres) of government-owned land. The property was acquired in "Fee Simple" and includes the underlying mineral rights. It is within this area that NASA and the other resident agencies have constructed the test facilities, laboratories and office and support buildings necessary for conducting their operations.			Integrated Pest Management: The utilization of control measures coordinated for overall environmental protection so as to reduce pest numbers to a controlled level without adverse effects to the surroundings.
	General Maintenance Work Priority System - The following is a description of the General Maintenance Work Priority System:			IAGP: Installation-Accountable Government Property in the possession of, or directly acquired by the Government and subsequently made available to the contractor for use in the performance of work related to this contract.
	Priority/Description			Location: The Contractor shall define the location where each type of work will be performed (or location based out of).
	1 Emergency			Safety of life or property threatened; immediate mission impact; loss of utilities: Begin immediately; divert resources as necessary; overtime may be authorized.
	Narrative			

FACILITY MAINTENANCE & OPERATIONS
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Maintenance - Includes day-to-day periodic, scheduled or unscheduled work required to preserve or restore a piece of equipment, a system, or utility to such a condition that it may be effectively utilized for its intended purpose, output, redundancy and availability.

Maintenance Level: A designation used to specify the frequency of services and type of grounds maintenance required.

Monitor and Inspect: These terms are used in conjunction with "Operate" to delineate system activities other than actual operations which require periodic staffing. The Government requires that these activities would be accomplished by trained personnel with ability to recognize abnormal conditions and evidence of potential problems.

Mowing: Mowing shall include cutting and trimming, within the designated area, all grasses, weeds and other vegetation, which is 1 inch, or less in diameter (at ground level).

Operate: This term is used for systems that require periodic operational activities but not continuous staffing. Personnel may be available for other contract activities. Operations include at least the first hour of trouble-shooting/investigation of a malfunction or availability loss (See Table 5.5-4 for response time), and also includes operational support for planned outages required for Utility PM's.

Outage: The planned or unintentional interruption or termination of a utility service such as electricity, water, sanitary sewage, EMCSS control, or natural gas.

Planned Maintenance Projects: A project which is approved and funded for a fiscal year as a result of the comprehensive inspection process (5.7.3.2 - 5.7.8) or as designated by the CO.

Predictive Testing and Inspection (PT&I): The use of testing techniques (primarily non-intrusive), visual inspection, and performance data to assess equipment condition. Continuing analysis of equipment condition is used to replace arbitrarily timed maintenance tasks with maintenance that is scheduled based on equipment condition.

Preventive Maintenance (PM): PM is the planned, scheduled periodic inspection, adjustment, cleaning, lubrication, parts replacement and calibration of components, equipment and systems. Also frequently called time-based, but in the broad sense, is extended to include PT&I.

Proactive Maintenance (PAM): Maintenance which seeks to reduce maintenance costs through better design, construction/installation, specifications, maintenance procedures, workmanship, and scheduling. Proactive Maintenance employs techniques such as specification of new/rebuilt equipment, precision build/installation, failed part analysis, root-cause failure analysis, reliability engineering, rebuild certification/verification, age exploration and recurrence control.

Programmed Maintenance: Programmed Maintenance consists of those maintenance tasks whose cycle exceeds 1 year, such as painting a building every 5th year.

Pruning: Pruning is selectively removing unwanted growth to make a plant or tree grow or respond in a desired manner. Pruning differs from 'shearing'. Pruning involves selection and judgment. 'Shearing' means clipping all growth on a plant at a uniform distance and shape.

Quinquennially: Also called 5-year Frequency. Activities accomplished 1 time during each 60 month period of the contract, at intervals of 58 to 62 months. 20% of the Quinquennial Tasks shall be completed each year under any given task sheet.

Reliability Centered Maintenance (RCM): An on-going structured process which determines the optimum mix of reactive, preventive, PT&I and proactive maintenance practices in order to provide the required reliability at the minimum cost.

Service Requests: Service Requests are not maintenance items, but are so often performed by facilities maintenance organizations they become a part of the baseline. Service Requests are requests for facilities related work which is new in nature, and as such are funded by the requesting organization. Service Requests, initiated by anybody on the Center, are submitted on a demand SWR, require approval by someone before any action is taken, are planned and estimated, materials procured, and shop personnel

FACILITY MAINTENANCE & OPERATIONS
ANNEX 5.1
GENERAL INFORMATION

discretely scheduled to accomplish the work. Examples of these requests include installation of an outlet to support a new copier machine; providing a compressed air outlet to new test bench; renovating an office; and installing special cabinetry.

Six-Year Frequency: Activities accomplished 1 time during each 72 month period of the contract, at intervals of 70 to 74 months. 1/6 of the Six-Year tasks shall be completed each year under any given task sheet.

Special Purpose Mobile Equipment (SPME): Commercially available, self-propelled vehicles or trailers that incorporate internal combustion engine power designed for special-purpose use, e.g., forklifts, bulldozers, cranes, fire trucks, tractors, pressurant and propellant trailers, and certain aircraft ground support equipment. (It does not cover general-purpose vehicle, house trailers, or portable shop equipment, such as welders.) In gray areas the NASA Transportation Officer, will make the final determination as to whether or not equipment will be treated as SPME.

Special Test Equipment (STE): This designator is assigned by test programs to differentiate between facility systems that are configuration controlled and systems and/or equipment that is used uniquely for specific testing of test article. As a general rule, STE is not configured and can be changed frequently to accommodate unique requirements of the testing program. Interface points between facility and STE are normally shown in SSC Interface Control Drawings which are part of the SORD Drawing system or by memorandum of agreement. The FAMRP will also designate system responsibility and in some areas define STE system responsibility. All work accomplished by the FOS Contractor on STE will be by demand work order.

Staff and Operate: This term is used for systems that require continuous staffing during the operational period. Personnel may also operate other systems within the immediate vicinity.

Standard Operating Procedure (SOP): This is a standing procedure that provides step-by-step instructions to operate systems. It is used for activities that commonly occur. The SOP requires CO review and shall be maintained in electronic format easily

accessible to the Government. Documents shall become Government property and shall be stored at CEF (See DR 5-GA09).

Structures: A structure is a constructed unit established for a designated objective. Structures that are part of or inside a facility are included with the facility. For purposes of this contract, structures are generally described as:

- (1) Allowing pedestrian and vehicular transportation. Includes roads and parking areas, paved or gravel surfaces, curbs, shoulders, guard rails, medians, wheel stops, walkways, bridges, sidewalks, and associated hardware.
- (2) Preventing access and maintaining privacy. Includes fences, gates, barbed wire, grounding systems, planters, bollards, chains, and associated hardware and attachments.
- (3) Retaining or directing natural elements. Includes culverts, drainage systems, gravity storm water systems, retaining wall, bulkheads, landscaped borders, head walls, rip rapped areas, retention/detention ponds, spillways, canals, navigational lock, catch basins, and oil/water separators.
- (4) Providing information. Includes signs, pavement markings, flag poles, displays, historical markers, monuments and associated equipment.
- (5) Other. Boat ramps, docks, landfill, and associated equipment.

System/Subsystem: Groups/subgroups of equipment forming a network serving a common purpose.

Test Complex: For the purpose of this contract, all facilities, equipment and land east of a line parallel to and nominally 1000 feet west of D road and extended to the ARMY complex.

FACILITY MAINTENANCE & OPERATIONS

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Training/Certification: The Contractor shall define the methods to train and certify new and existing employees in areas that require certification and address how the contractor will handle attrition.

Utilities: For purposes of Annex 5, consist of 13.8KV Electrical System, Potable Water System, Sanitary Sewage System, EMCS System, and the Natural Gas System as defined and described in Table 5.1-1.

Utility Process Plan (UPP): This is a one time per operation. Contractor generated, document that provides step-by-step instructions that establish responsibility and control system configuration changes. It provides details such as lockout/tagout, switch operation, valve operation, coordination, etc. Documents shall become Government property. (See DR 5-FA05)

Utility Systems: A utility is a system for collecting or distributing services between a common point and specific locations both above and below ground. See Annex 5.1, Table 5.1-1 for descriptions of utility systems.

5.1.7 Acronyms

The following are acronyms used in Annex 5. See Annex 1 for additional information.

BHMA - Building Hardware Manufacturer's Association	FID - Field Interface Device
BOHS - Building Operating Hours Summary	GEE - Government Essential Equipment
CEF - Central Engineering Files	GMAW - Gas Metal Arc Welding
CM - Corrective Maintenance	GTAW - Gas Tungsten Arc Welding
CMMMS - Computerized Maintenance Management System	GPD - Gallons Per Day
CO - Contracting Officer	GPH - Gallons Per Hour
COTR - Contract Officers Technical Representative	HVAC - Heating, Ventilation and Air Conditioning
CSBR - Critical Systems Breakdown Report	IVTEL - Inventory of Vertical Transportation Equipment List
EGFE - Essential Government Furnished Equipment	IAGP - Installation-Accountable Government Property
EMCS - Energy Management Control System	MPCo - Mississippi Power Company
FCPF - Fluid Component Processing Facility	MBC - Modular Building Controller
	MSDH - Mississippi State Department of Health
	MTS - Maintenance Task Sheet
	NDE - Non-Destructive Evaluation
	NDT - Non-Destructive Testing
	NFPA - National Fire Protection Association
	OEM - Original Equipment Manufacturer
	O&M - Operations & Maintenance
	PAM - Proactive Maintenance
	PLC - Programmable Logic Controller
	PT&I - Predictive Testing and Inspection
	RCM - Reliability Centered Maintenance
	ROW - Right-of-Way
	SCD - Specification Control Document
	SCU - System Control Units
	SFUSS - Structures, Facilities, Utilities, System/Subsystem
	SMAW - Shielded Metal Arc Welding
	SOP - Standard Operating Procedure
	SPME - Special Purpose Mobile Equipment
	SSC - Stennis Space Center
	TRL - Technical Reference Library
	UC - Unitary Controller
	UPP - Utility Process Plan
	VAV - Variable Air Volume

ANNEX 5.1
TABLE 5.1-1 SYSTEM DEFINITIONS

NUMBER	TYPE	SYSTEM	
E1	Electrical	Site Electrical 13.8 kV Main Substation	<p>A. Description</p> <p>Two Mississippi Power Company (MPCo) 115 kV distribution lines serve a split bus through two 115 kV/13.8 kV power step/down transformers with automatic load tap changers. The tubular aluminum split bus has eight 2000 A vacuum circuit breakers. Each circuit breaker can be bypassed and isolated by air break switches and a bypass bus. The split busses can be tied by a motor operated switch. The controls and protective relaying are located in an adjacent building. All maintenance of the SSC main substation is the responsibility of MPCo.</p> <p>B. Output</p> <p>The site electrical 13.8 kV main substation is an integral part of the SSC 13.8 kV distribution system. This MPCo owned and joint NASA/MPCo operated substation provides electricity to the site from the MPCo grid. The split bus is configured to provide a method of isolating sections with either manual switching or through coordinated protective relaying circuits. The output of this system is continuous since it is located on the utility grid between two generating plants and can be isolated from either in the event of a fault on the utility. The output of the two primary transformers is continuous and regulated.</p> <p>C. Components</p> <p>Components including bus, circuit breakers, air break switches, transformers, transformer grounding resistors, automatic load tap changers, protective relaying circuits, control wiring, switches, control panels, meters, connecting and structural bus supports PTs, CT's, CT & PT supports, batteries, battery chargers, manual transfer switches, automatic transfer switches, grounding mat, lightning masts, fence and gates. All components, except the power transformers, two low side breakers, and automatic load tap changers, are the property of MPCo.</p>
E2	Electrical	Site 13.8 kV Electrical Distribution System	<p>A. Description</p> <p>Input to the site 13.8 kV electrical distribution system is provided from the main substation. The system is configured as a 13.8 kV delta system, with overhead static wires on all above ground feeders.</p> <p>Two overhead power lines (one from each bus) serve the SSME Test Area underground 13.8 kV network. The overhead power lines feeding the SSME Test area are mounted on concrete poles. The SSME Test Area underground 13.8 kV network is configured as a double radial with multiple tie points.</p>

TABLE 5.1-1 SYSTEM DEFINITIONS

NUMBER	TYPE	SYSTEM	NONMENCLATURE
			<p>Two overhead power lines (one from each bus) serve the Test Support Area. The Test Support Area is configured as a double radial, mostly overhead on double circuit wood poles.</p>
			<p>Two overhead power lines (one from each bus) serve the Adminstrative and Industrial Areas on a combination of wood poles, concrete poles, and concrete encased ductbanks. The Admin/Industrial Area is configured as a loop, with each end of the loop fed by a different main substation bus.</p>
			<p>The distribution system extends to the main disconnecting means at each facility, and includes the facility transformer(s) and metering.</p>
	B. Output		<p>Provide electrical power to facility main disconnecting means. The output of the system is continuous since each area of the site is served by two feeders or a looped feed and has provisions for isolating faulted components. System switching is accomplished through phased closed transition of loads between feeders.</p>
	C. Components		<p>Components include, but are not limited to, switchgear, circuit breakers, bus, meters, control wiring, batteries, battery chargers, transfer switches, control panels, capacitors/switches, cable, cable splices, duct banks, cable trays, manholes, sump pumps, poles, cross arms, insulators, fuses, distribution switches, service/control power/instrument transformers, grounding system relays, transducers, fences, reactors, fused disconnects, lightning arrestors, static wires, ground rods, power monitors, splice shields, strip heaters.</p>
E3	Electrical	Exterior Lighting System	<p>A. Description</p> <p>The exterior lighting system provides lighting for roadways, parking areas, safety and security.</p> <p>(See General Site Plan Exterior Lighting Drawings and Master Utility Plans in CEF.)</p> <p>B. Output</p> <p>Provide lighting to reduce risk of injury, theft, or property damage. Foot-candle levels shall be maintained in accordance with SSC 50-002, and IES Lighting Handbook, 8th edition (1993).</p> <p>C. Components</p> <p>This system is defined to include, but is not limited to: lamps, reflectors, ballasts, lens, light poles, conductors, conduit, photocells, timers, and associated hardware.</p>
E4	Electrical	13.8 kV Switching Facilities	<p>A. Description</p> <p>Air, gas or oil 13.8 kV switch assemblies.</p> <p>B. Output</p> <p>Provide switching capability between multiple 13.8 kV feeders to the facility transformer(s)</p> <p>C. Components</p> <p>This system is defined to include, but is not limited to: Air, gas or oil 13.8 kV switches, fuse enclosures, fuses, fuse holders, heater strips, secondary breakers, thermostat controls, control</p>

ANNEX 5.1

TABLE 5.1-1 SYSTEM DEFINITIONS

NUMBER	TYPE	SYSTEM	NONMENCLATURE
		circuits, monitoring circuits, and associated hardware.	
E5	Electrical	Medium Voltage Transformers	
		A. Description 13.8 kV transformers	
		B. Output Provide step down from site electrical 13.8 kV distribution to the secondary distribution level facility voltages.	
		C. Components This system is defined to include, but is not limited to: 13.8 kV transformers (dry type, mineral oil filled, silicon oil filled), gauges, fans, fan motors, heater strips, meters, nitrogen tanks, secondary breakers, control circuits, thermostat controls, monitoring circuits, and associated hardware.	
E6	Electrical	Service Entrance Systems	
		A. Description The systems which provide a current path for service entrance between the facility transformer secondary bushings or subfeed from another source/facility and the facility main disconnecting means.	
		B. Output Operate at assigned ratings to carry energy reliably without exceeding the maximum hot-spot temperature rise of 55 degrees Centigrade for 60 cycle systems, providing for the given indoor and outdoor environmental conditions. Service entrances must maintain the ability to dissipate heat losses.	
		C. Components These systems are defined to include, but are not limited to: air or sandwich busduct, busway, cablebus, multiplex conductor assemblies, conduit/wire systems, busbar, straight lengths, elbows, tees, tap boxes, power take offs, plugs, housings, insulation, hangers, and other associated hardware.	
E7	Electrical	Main Disconnecting Means	
		A. Description The main disconnecting means are comprised of 480/277 Volt or 120/208 Volt, protection and switching, including tie-breakers at double ended substations.	
		B. Output Operate, control and protect low voltage distribution equipment, and provide service entrance, power, and lighting distribution. Faults must be isolated by the overcurrent protective device closest to the fault.	
		C. Components These systems are defined to include, but are not limited to: assembled indoor or outdoor equipment, switching, interrupting, control, metering, protective, and regulating devices, together with their supporting structure(s), enclosure(s), conductors, electric interconnections and accessories; grounding, bus, bus supports, heaters, and associated hardware. Examples of these systems are switchboards; indoor, outdoor, drip-proof, protected aisle and common aisle variety of metalclad	

ANNEX 5.1
TABLE 5.1-1 SYSTEM DEFINITIONS

NUMBER	TYPE	SYSTEM	NONMENCLATURE		
			A. Description	B. Output	C. Components
E8	Electrical	Secondary Distribution Equipment	<p>A. Description</p> <p>The secondary distribution equipment systems are comprised of 480/277 Volt or 120/208 Volt distribution, protection and switching equipment within the various facilities at SSC.</p>	<p>B. Output</p> <p>Operate at assigned ratings without exceeding the maximum hot-spot temperature rise of 55 degrees Centigrade at 60 cycles, providing for the given indoor and outdoor environmental conditions. The ratio of load current to the ampere rating of the overcurrent protective device determines its operating temperature shall be used for panelboards.</p>	<p>C. Components</p> <p>These systems are defined to include, but are not limited to: assembled indoor or outdoor equipment, switching, interrupting, control, metering, protective, and regulating devices, together with their supporting structure(s), enclosure(s), conductors, electric interconnections and accessories; grounding, bus, bus supports, heaters, protective devices, enclosures, bushbar and terminal connections, disconnects, fuses, contactors, motor overload relays, pilot and miscellaneous control devices, interlocks, and associated hardware. Examples of these systems are switchboards; indoor, outdoor, drip-proof, protected aisle and common aisle variety of metalclad switchgear; motor control centers; loadcenters; meter panels or centers; and molded-case circuit breaker distribution panels (PP, MDP, DP classified panels) and their components for voltage transformation, metering, circuit switching, and system protection in the Secondary Electrical Distribution System other than service entrance equipment.</p>
E9	Electrical	Lighting System (Interior)	<p>A. Description</p> <p>That system which comprises the building or facility interior general area lighting from the lighting panel board to the end-user.</p>	<p>B. Output</p> <p>Operate at recommended minimum building illumination levels in accordance with SSC 50-002, and IES Lighting Handbook, 8th Edition (1993).</p>	<p>C. Components</p> <p>These systems are defined to include, but are not limited to: fixtures, lamps, reflectors, ballasts, lens, diffusers, fuses, switches, mounting hangers and hardware, conductors, conduit, controls and associated hardware. This includes systems in general office, hi-bays, laboratories, cafeteria's, etc...Lamp types vary and include incandescent, compact fluorescent, compact fluorescent, and HID (mercury, metal-halide, high pressure sodium, and low pressure sodium).</p>

ANNEX 5.1
TABLE 5.1-1 SYSTEM DEFINITIONS

NUMBER	TYPE	SYSTEM	NONMENCLATURE
E10	Electrical	Emergency Lighting System	<p>A. Description That system which comprises the life safety lighting including, but not limited to emergency lighting units exit lighting, stairwell and egress lighting.</p> <p>B. Output Emergency lighting for evacuation purposes must energize automatically upon loss of power or normal lighting. Emergency lighting must be maintained for at least 1 ½ hours for battery-powered units. The maximum tolerated duration of power failure is up to 10 seconds, preferably not more than 3 seconds, in accordance with ANSI/IEEE Std 446-1987. Light levels must be maintained to provide enough illumination to allow easy and safe egress from the area involved. Comply with ANSI/NFPA 70-1996, Article 700 for the operation and maintenance requirements and ANSI/NFPA 101-1985 for emergency lighting specific to life safety lighting.</p> <p>C. Components This systems is defined to include, but is not limited to, lamps, reflectors, ballasts, lens, emergency power supplies, conduits, wiring, and associated hardware.</p>
E11	Electrical	Obstruction and Warning Lighting Systems	<p>A. Description That system which comprises the aircraft warning lights on water towers and other facilities at SSC.</p> <p>B. Output Operate at recommended building illumination levels in accordance with FAA circular XXX.</p> <p>C. Components This system is defined to include, but not limited to: lamps, reflectors, ballasts, lens, conduits, wiring, masts, and associated hardware.</p>
E12	Electrical	Lightning Protection System	<p>A. Description That system which comprises the lightning protection systems for all buildings and structures including substation, technical equipment buildings, towers, antennas, and masts.</p> <p>B. Output Provide current path to ground system for lightning strokes.</p> <p>C. Components These systems are defined to include, but not limited to: air terminals, roof conductors, down conductors, all separately mounted shielding systems, overhead static wires, and associated hardware.</p>
E13	Electrical	Grounding System	<p>A. Description That system which comprises the facility ground systems. Contractor shall maintain chronological records of all tests and observations. Any measurement not meeting the specified or recommended</p>

ANNEX 5.1
TABLE 5.1-1 SYSTEM DEFINITIONS

NUMBER	TYPE	SYSTEM	NONMENCLATURE		
			B.	C.	D.
			B. Output values shall be investigated, a major discrepancy report prepared and delivered to the COTR annually. Contractor shall include these updates in the facility historical files.		
			C. Components Provide means to limit voltages due to lightning, line surges, or unintentional contact with higher voltage lines, and to stabilize the voltage to ground during normal operation. Reference ANSI/IEEE 142-1982, and for ground-fault protection reference ANSI/IEEE std 242-1986. Earth resistance shall be maintained at resistance levels specified in Mil Handbook 419A Vol I and II.		
E14	Electrical	Emergency Power Backup Systems	A. Description That system which serves as an emergency source for supplying power loads in the event of loss of a service interruption or loss of power.	B. Output Provide emergency backup power that, upon failure or outage of the normal source, automatically provides power within a specified time to critical devices and equipment whose failure to operate satisfactorily would jeopardize health and safety of personnel or cause equipment damage.	C. Components The components which comprise this requirement include but are not limited to: storage batteries, generator sets, UPS (energy storage batteries, rectifiers, inverters, and associated controls), transfer switching devices, relay synchronizing, protective and auxiliary devices, alarms and controls, conductors, wiring components, grounds and associated hardware.
E15	Electrical	Fire Detection and Security Systems	A. Description The alarm systems for fire detection and security in various facilities throughout the site.	B. Output Provide reliable operation of SSC fire detection and security systems. Provide adequate alarm capabilities in accordance with SSC 50-008, NFPA 70, NFPA 72, NFPA 101 and the ADA.	C. Components This system is defined to include, but is not limited to: fire and security alarm control panels, manual and automatic initiating devices, audible alarm devices, visual alarm devices, interface devices, signaling circuitry, radio frequency (RF) transceivers, cable, cable clamps, antennas, auxiliary relays and devices, annunciator panels, and associated equipment.

ANNEX 5.1
TABLE 5.1-1 SYSTEM DEFINITIONS

NUMBER	TYPE	SYSTEM	NONMENCLATURE
E16	Electrical	Facility Fire Protection System	
		A. Description	The facility water fire protection system provides for fire protection water at the facilities.
		B. Output	The system shall provide for the continuous supply of fire protection water to the facilities as designed.
		C. Components	The facility fire protection system includes, but is not limited to: piping, valves, sprinkler heads, booster pumps, wet pipe sprinkler systems, dry sprinkler systems, deluge systems, flow switches, tamper switches, pipe hangers/supports, fire hydrants and associated hardware.
C1	Civil	SSC Utility Potable Water Distribution System	
		A. Description	The utility system that provides for the distribution of potable and fire water to a point five feet outside all facilities at SSC. It includes appurtenances that the water system supplies that are not considered facilities or fire protection devices. It does not include the system inside facilities such as rest rooms, sinks, showers, drinking fountains, etc.
		B. Output	The system shall provide base facilities with a continuous supply of potable/fire water at 55 to 65 psig referenced at wells No.1 and No. 2. It shall provide test facilities with a continuous supply of potable/fire water at 75 to 85 psig referenced at the base of elevated storage tank No. 3.
		C. Components	The distribution system is defined to include, but is not limited to, the following components: all piping, valves, fittings, valve boxes, valve and pipeline markers, and insulation. Also, associated appurtenances outside facilities such as eye washes, safety showers, hose reels, wash racks, truck fill lines, and gages.
C2	Civil	SSC Utility Potable Water Pumping System	
		A. Description	The utility system that provides for the pressurization of the SSC potable water system.
		B. Output	During normal operations the pump system shall maintain the base side pressure at 55 to 65 psig referenced at wells No. 1 and No. 2. It shall maintain the test site pressure at 75 to 85 psig referenced at the base of elevated storage tank No. 3. For emergency operations pressure can be provided by connection to the Mississippi Army Ammunition Plant water system, and/or well No. 3 could be activated from its standby status and support pressure at a somewhat reduced pressure.
		C. Components	The utility potable water pumping system is defined to include, but is not limited to, the following components: centrifugal pumps, electric motors, water meters, gages, pressure tank, and associated

ANNEX 5.1

TABLE 5.1-1 SYSTEM DEFINITIONS

NUMBER	TYPE	SYSTEM	NONMENCLATURE
C3	Civil	SSC Utility Potable Water Generation System	appurtenances inside the pump houses.
		A. Description	The utility system that provides for the generation of potable water for SSC potable water system.
		B. Output	The generation system shall provide the designed quantity of water to meet designed peak needs for regular usage plus fire protection.
		C. Components	The utility potable water generation system is defined to include, but is not limited to, the following utility components: two active and one inactive artesian wells that supply water to the well head at approximately 18 psig from an approximate depth of 1000 feet.
C4	Civil	SSC Utility Potable Water Storage System	
		A. Description	The utility system that provides for the elevated storage of potable water.
		B. Output	The elevated tanks maintain head pressure within the designed pressures and provide approximately 850,000 gallons of storage.
		C. Components	The utility potable water storage system is defined to include, but is not limited to, the following components: two 300,000 gallon elevated tanks and one 250,000 gallon elevated tank., Components include associated structural framing, gages drain pipes, screens, vents, and cathodic protection. The piping inside the elevated storage tank is also included.
C5	Civil	SSC Utility Potable Water Treatment System	
		A. Description	The utility system that provides for the treatment of SSC potable water.
		B. Output	The chemical treatment system located in each pump house shall provide the quality of water that meets Mississippi Department of Environmental Quality standards for chemical dosages and quality control of bacteria.
		C. Components	The utility potable water treatment system is defined to include, but is not limited to, the following components: chlorinators, chlorine cylinders, scales, piping, fittings, valves, insulation, chlorine alarm detection system, and associated hardware to inject gaseous chlorine.
C6	Civil	Primary Sanitary Sewage Collection	

ANNEX 5.1
TABLE 5.1-1 SYSTEM DEFINITIONS

NUMBER	TYPE	SYSTEM	NONMENCLATURE
		A. Description Systems	The Sanitary Sewage Collection Systems consist of a combination of gravity lines, lift stations and forced feed lines which transport waste water from a site facility to a waste water treatment lagoon. The Sanitary Sewage Collection Systems begin five feet outside of the served facility and end at the inlet connection to the weir which discharges into a treatment lagoon (Exception: If pumping stations are located within a facility, the system begins two feet upstream of the pumping station inlet check valve.).
		B. Output	The systems shall be maintained free of excessive leakage and shall provide continuous service as designed and required to accomplish transport of wastewater from facilities to treatment systems.
		C. Components	The Sanitary Sewage Collection System is defined to include, but is not limited to piping, valves, check valves, wet wells, dry wells, manholes, pumps, pump motors, sump pumps, vents, blowers, compressors, grinders/communitors, controls, and other appurtenances required to provide a complete system for transferring sewage from site facilities to a treatment system.
C7	Civil	Sanitary Sewage Treatment Lagoons	<p>A. Description</p> <p>The Sanitary Sewage Treatment Lagoons consist of two separate lagoon systems which serve the function of retention and removal of objectionable characteristics of the sewerage through natural interaction between the decomposing organic matter, vegetation life (duck weed, water hyacinths, and other water vegetation) and natural lagoon oxidation. In each system, wastewater passes from the main lagoon into an adjoining shallow polishing marsh and is discharged through an Ultra Violet (UV) Reactor for final disinfection.</p> <p>Micro-processor based controls are used to control the treatment process flow; A Landis & Gyr Modular Building Controller (MBC), accepts input from lagoon and polishing marsh level sensors, influent and effluent flow rates, UV reactor intensity. Output signals from the MBC governs outflow of the lagoon through a crossover valve , and outflow of the polishing marsh is regulated by an actuator controlled slide gate. Influent and effluent flow rates are logged and stored by the Energy Management and Control System (EMCS), through the MBC.</p> <p>Each Sanitary Sewage System begins at, and includes, the main lagoon inlet weir, and ends immediately downstream of the final discharge weir.</p> <p>B. Output</p> <p>The system shall be maintained in such a manner as to provide wastewater treatment and discharge</p>

ANNEX 5.1

TABLE 5.1-1 SYSTEM DEFINITIONS

NUMBER	TYPE	SYSTEM	NONMENCLATURE
			water quality in compliance with state regulations and permit requirements, without interruption to SSC site operations. Independent laboratory sampling analysis, in accordance with permit requirements, will be provided by the Government through another contract mechanism.
	C. Components		Each Sanitary Sewage Treatment System consists of a main lagoon, a polishing marsh and a UV disinfection reactor. The systems include all berms, levees, piping, valves, wipers, controls, reactors, and appurtenances required to provide a complete functional treatment system.
C8	Civil	Rock-Reed Sanitary Sewage Systems	<p>A. Description The Rock-Reed Sanitary Sewage Treatment Systems consist of two separate Rock/Reed systems which serve the function of retention and removal of objectionable characteristics of the sewage through natural interaction between the decomposing organic matter, vegetation life and natural oxidation. In each system, waste water passes through a septic-settling tank and into the rock/reed filter, then is disinfected by a UV reactor and discharged into the environment.</p> <p>The system begins at the facility discharge point, which is defined as five feet from the facility, and ends immediately downstream of the discharge weir.</p> <p>B. Output The system shall be maintained in such a manner as to provide wastewater treatment and discharge water quality in compliance with state regulations and permit requirements, without interruption to SSC site operations. Independent laboratory sampling analysis will be provided by the Government through another contract mechanism.</p> <p>C. Components Each Sanitary Sewage Treatment System consists of a septic tank, rock-reed filtration system, UV reactor. The system includes all berm, levees, piping, valves, vegetation and other appurtenances required to provide a complete functional system.</p>
C9	Civil	Septic Tank/Field Drain Sanitary Sewage Systems	<p>A. Description This utility consists of four separate Septic Tank and Field Drain Systems, which serve four separate facilities. The system begins five feet outside of the served facility and ends at the end-run of field drain.</p> <p>B. Output The system shall be free of leaks and shall provide continuous availability of sewage flow and treatment from facilities, during normal working hours.</p> <p>C. Components Each System consists of piping, a septic tank, and a field drain with aggregate.</p>

ANNEX 5.1
TABLE 5.1-1 SYSTEM DEFINITIONS

NUMBER	TYPE	SYSTEM	NONMENCLATURE
C10	Civil	Site Utility Natural Gas Distribution System	<p>A. Description</p> <p>The Facility system that provides for the distribution of natural gas from the supplier's metering station to the point of utilization. The point of utilization is a) at the facility service valve, b) 5 feet from the facility, or c) at the outlet connection to the gas meter or regulator, whichever is closest to the facility.</p> <p>B. Output</p> <p>The system shall provide for natural gas to the facilities at the designed rate and pressure based on the designated regulator settings.</p> <p>C. Components</p> <p>The natural gas system is defined to include, but is not limited to, the piping and pipe wrapping, fittings, gages, valves and associated identification markers and labels, blow offs, regulators, valve stations, relief valves, cathodic protection system, and associated isolation unions and anodes and meters.</p>
I1	Instrumentation	Energy Management and Control System	<p>A. Description</p> <p>The Energy Management and Control System (EMCS) is a distributed network of stand-alone controls, which interface with a central console for monitoring and operator adjustment. The system is used to control and monitor a wide variety of equipment and processes. The Energy Management and Control System (EMCS) Central Console serves as the central control point for real-time monitoring, operation and management of facility systems and utilities throughout the entire SSC site. The system acts as an effective tool for energy management, management reporting, data archiving and analysis for equipment control operations and maintenance. As such, this system (both the machine and human elements) is of vital importance for SSC missions operations and shall be operated and maintained in a dependable configuration and manner. The Central Console System operation includes the EMCS as well as the Fuel Monitoring System and the Main Substation Monitoring System; these systems are defined separately in this table.</p> <p>B. Output</p> <p>Provide all services necessary to maintain and operate the entire EMCS, including central console, field cabinets, instrumentation, and wiring in a reliable, continuous and accurate, operational state as specified in this contract. Work includes continuous staffing and operating of the console, performing database management and backup required to protect software, real-time management and support of the site facilities in regard to site mission specific requirements, and coordination and notification of site utility outages/activities, repair of EMCS equipment, wiring, instrumentation and controllers.</p>

ANNEX 5.1
TABLE 5.1-1 SYSTEM DEFINITIONS

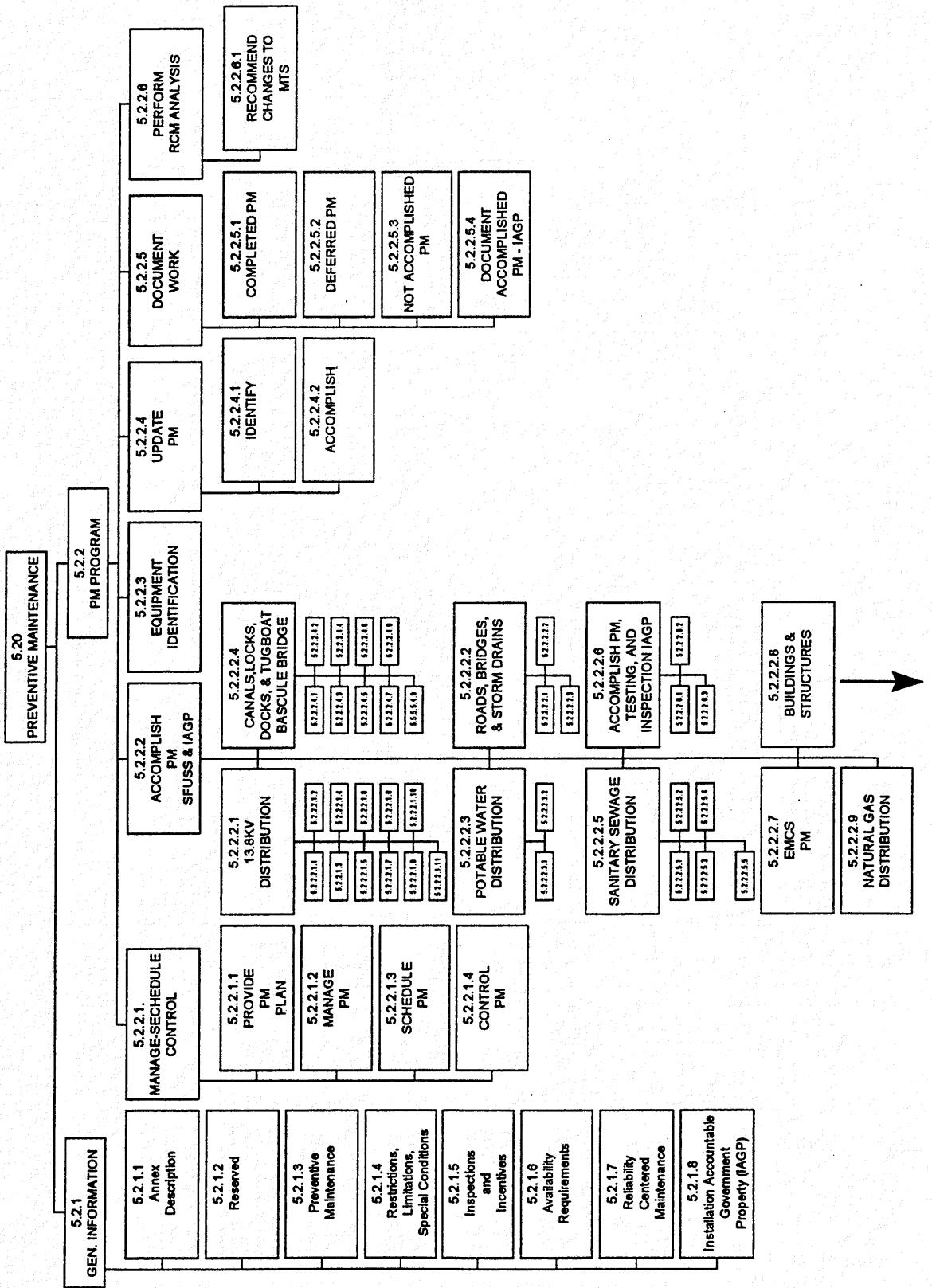
NONMENCLATURE			
NUMBER	TYPE	SYSTEM	C. Components
			The System 600 central console consists of a Digital Equipment Corporation PDP 11/93 Processor, 2 console PC terminals which operate on EMU-TEK emulation packages. The System 600 is linked to approximately 50 Modular Building Controllers (MBC), 88 System Control Units (SCU) and 35 Unitary Controllers (UC), which contain the algorithms for input/output control of approximately 13,000 field points (See Workload Data in applicable line items of Annex 5 for actual quantities of components).
12	Instrumentation	Fuel Management Monitoring System	<p>A. Description</p> <p>The Host logs alarms into A PC, which acts as an electronic printer of alarms. The Central Host is defined to begin at the ADI line connection and include all interconnected wiring, connections, keyboards, monitors, printers, tape/disk drives, power protection devices, hardware, firmware, software and other appurtenances required to have a completely functional and maintainable Central Host.</p> <p>EMCS field components include instrumentation, signal cables and wiring, programmable controllers and components (MBCs, SCUs and UCs), and network wiring up to the point of interface with the telecommunication links (EMCS includes the ADI).</p> <p>B. Output</p> <p>The Fuel Monitoring System consists of a Veeder-Root fuel management system which monitors fuel storage tank conditions at six locations, and reports status and alarm conditions to a PC Host/Central Console. Alarms are recorded through the EMCS alarm logging PC. The central controller operates on Trak Engineering software, and includes management of the Fuel Sentry, which dispenses automotive fuel (Diesel and Gasoline) at SSC. Fuel Sentry access keys are also programmed and managed from the host.</p> <p>C. Components</p> <p>Provide all services necessary to maintain and operate the entire Central Console System in a reliable, continuous and accurate operational state as specified in this contract. Work includes manning of the console, performing database management and backup required to protect software (For Host and Field Microprocessors), and management and support of the site fuel dispensing and reporting requirements.</p> <p>The Central Host is defined to begin at the ADI line connection and include all interconnected wiring, connections, keyboards, monitors, tape/disk drives, power protection devices, hardware, firmware, software and other appurtenances required to provide complete functions described for monitoring and operating the fuel management/monitoring system. The system monitors 6 fuel storage tank systems, and 2 fuel sentry systems that dispense and track automotive fuel.</p>

ANNEX 5.1
TABLE 5.1-1 SYSTEM DEFINITIONS

NUMBER	TYPE	SYSTEM	NONMENCLATURE
I3	Instrumentation	Main Substation Monitoring System	<p>A. Description The Main Substation Monitoring System consists of a PC Host that operates on Starview, and provides visibility of the main substation breaker operations and status.</p> <p>B. Output Operate and monitor the PC Host. Provide immediate notification of any concerns or problems.</p> <p>C. Components The system host components consist of a PC. All components are the property and maintenance responsibility of Mississippi Power.</p>
M1	Mechanical	Site HVAC	<p>A. Description Site Heating Ventilation and Air Conditioning (HVAC) consists of a variety of equipment and systems used for the purpose of maintaining temperature, humidity and air quality conditions within design limits.</p> <p>B. Output HVAC systems shall be capable of providing design conditions during occupied and operational hours. Output shall be sufficient to meet the following requirements:</p> <ol style="list-style-type: none"> Human Comfort HVAC Systems shall be capable of maintaining spaces at set point +/- 2F, within Comfort Envelope defined by ASHRAE Standard 55-74. Computer Room, Switch-Gear Room, Programmatic and specialty HVAC Systems shall be capable of maintaining conditions as defined by designs. Ventilating Systems shall be capable of ventilating at design rates to prevent buildup of contaminants and heat (within design limits). Heating units shall be capable of heating spaces within +/- 2F of set point (within design limits). Refrigeration equipment shall be capable of operating to design conditions. Chilled Water Systems and Heating Water Systems shall be capable of maintaining system temperatures as defined by designs. <p>C. Components HVAC includes chillers, boilers, air handling equipment, piping systems, pumps, cooling towers, exhaust systems, refrigeration equipment, instrumentation and controls, and peripheral equipment required to control temperatures, humidity conditions and air quality.</p>
M01	Marine	Site Marine	<p>A. Description Marine Systems are defined as a series of canals and associated structures, that are required to move propellants and devices from one place to another at SSC and to provide water access to the Site from Pearl River System. In addition, marine systems are defined as the NASA Tugboat and barges which are used extensively on site and off site to move material from one place to another and to perform maintenance on water structures.</p> <p>B. Output Marine Systems shall be capable of providing on-time service for the: delivery of propellant</p>

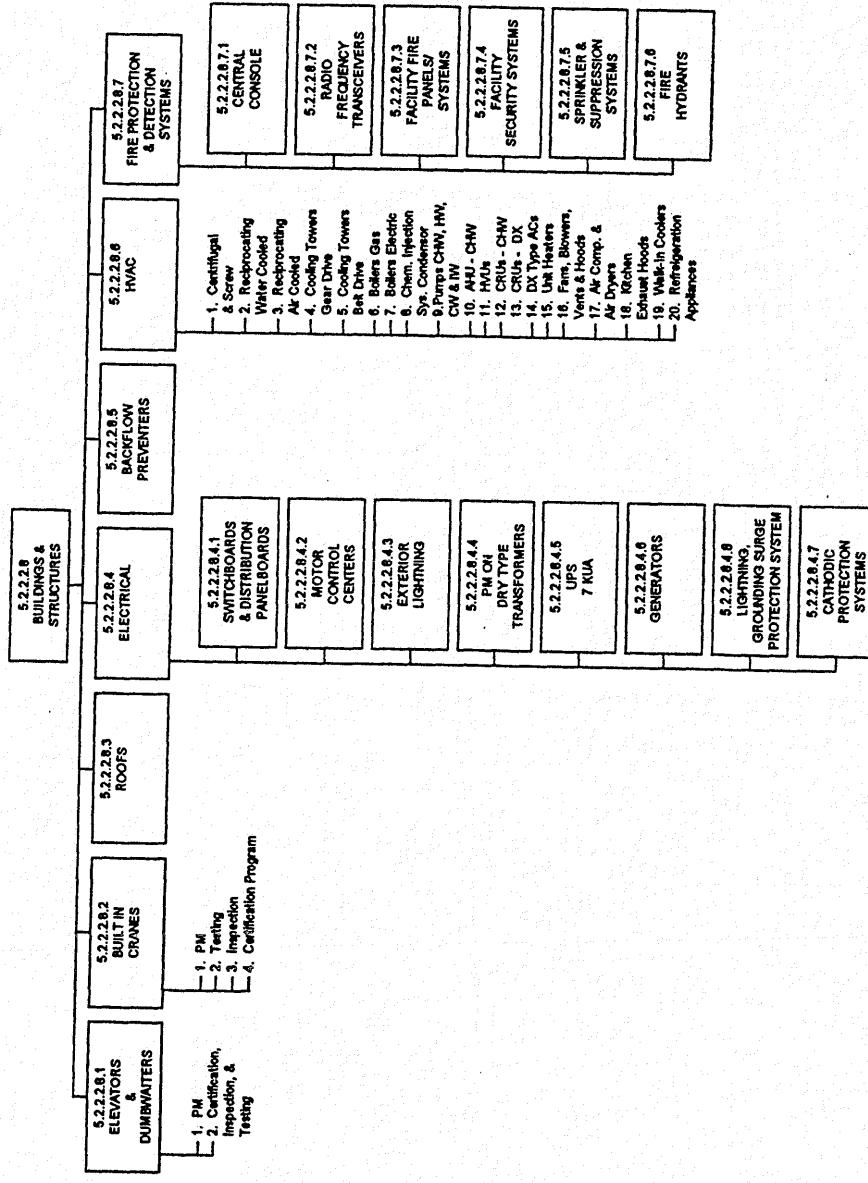
ANNEX 5.1
TABLE 5.1-1 SYSTEM DEFINITIONS

NUMBER	TYPE	SYSTEM	NONMENCLATURE
			barges as required by programmatic requirements; support to the Navy, Customs and other tenant agencies; and provide timely maintenance of systems.
	C. Components	Marine Systems include: The NASA Tugboat (Clairmont II) Bascule Bridge, Navigation Lock, Canal system, Docks, Water Structures, Navigation aids, Work Barges, Piers, Safety Equipment, Operating supplies and equipment, Marine warehouse and office space, Canal pumping station, Spillway system, Canal banks and drainage into canal, river system to the entrance from the Pearl River system, All tug specific equipment, Navigation aids, Traffic barriers and Special lighting.	
01	Other	Site Other	<p>A. Description Other Systems include Elevators, Built In Cranes, Hoists, Backflow Preventers and Roofs.</p> <p>B. Output Other Systems shall be capable of operating as follows:</p> <ol style="list-style-type: none"> 1. Elevators: Accomplish all operations necessary to meet availability requirements and operational hours as designated in Annex 5.5 and the Operating Hours Summary. 2. Built In Cranes and Hoists: The contractor is responsible for providing operations where the Inventory List shows the contractor as responsible operators. An provide these operations in accordance with NSS/G0-1740.9 3. Roofs: Meet requirements of Annex 5.7 <p>C. Components Other Systems include: All Elevators, Built In Cranes, Hoists, Backflow Preventers and Roofs.</p>



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ANNEX 5.2

PREVENTIVE MAINTENANCE

5.2.0 PREVENTIVE MAINTENANCE

5.2.1 General Information

5.2.1.1 Annex Description

This Annex identifies the routine Preventive Maintenance (PM) requirements for Structures, Facilities, Utilities, Systems/Subsystems and Installation-Accountable Government Property (SFUSS & IAGP). PM includes day-to-day planned, periodic, scheduled, inspection, adjustment, cleaning, lubrication, and specified parts replacement required to preserve or restore a piece of equipment or a system to such a condition that it may be effectively utilized for its intended purpose and availability, and to preserve equipment reliability through life cycle. This includes minor replacement or repair of worn or deteriorated components.

5.2.0 Program, which is innovative and resourceful. Proposed changes, or significant deviations from the provided MTS must offer an equivalent or improved program/service or other considerations and must be submitted in writing to the Contracting Officer (CO) for approval.

Specified structures and facilities are identified in Exhibit 8 of Annex 5 and IAGP is identified in Exhibit 4 of Annex 5 and Attachment J-10, List 1 and 2. Additionally, Table 5.1-1 identifies defined systems, subsystems, and units and the MAXIMO equipment database identifies numbered equipment. The defined systems in Table 5.1-1 and the numbered equipment in the MAXIMO equipment database are part of the specified SFUSS & IAGP. (See 5.1.2)

The following terms are defined and described in Annex 5.1:

- a. Structures
- b. Facilities
- c. Utilities
- d. Systems/Subsystems
- e. Installation-Accountable Government Property (IAGP)

The Contractor shall complete all minor repair requirements and correct all minor discrepancies identified during the performance of a PM inspection as part of the PM. However, if the Contractor determines that the work required to complete the identified repairs or correct discrepancies is too great to be accomplished during PM, this work shall be accomplished as CM and in accordance with Annex 5.3.

The Contractor may use the equipment and facilities provided by the Government to provide SFUSS & IAGP required functions, outputs and availability through PM services. The Maintenance Task Sheets (MTS) provide **minimum** performance standards intended to protect the life cycle of SFUSS & IAGP, and to protect the Government's financial risks associated with SFUSS & IAGP repair and/or replacement. The MTS may not provide the level of PM necessary for meeting availability requirements, thus the services to be provided will rely heavily on the Contractor's ability to establish and implement a Preventive Maintenance

Program, which is innovative and resourceful. Proposed changes, or significant deviations from the provided MTS must offer an equivalent or improved program/service or other considerations and must be submitted in writing to the Contracting Officer (CO) for approval.

This Annex includes the requirement for establishment and maintenance of a PM program which shall include all labor, materials, and reporting necessary to accomplish and validate specified PM. Additionally the PM program shall assure that the SFUSS & IAGP perform their respective intended functions, outputs and redundancies and are available during required operating periods. The Government has also established the

ANNEX 5.2 PREVENTIVE MAINTENANCE

minimum requirements of the quantity and frequency for each Time Based PM and PT&I on each system, subsystem and unit.

The Government has defined specified SFUSS & IAGP and associated equipment for which the Contractor shall prepare and submit a scheduled maintenance plan for NASA SSC review (see paragraph 5.2.2.1.1), that shall result in availability of intended functions, outputs and redundancies for the specified SFUSS & IAGP and their respective systems and subsystems or units. The Contractor shall, in the planning and executing of PM, utilize the RCM process to determine the optimum combination of Time Based PM, PT&I, and PAM tasks for each system, subsystem or unit specified, to attain the respective levels of availability, output, redundancy and intended function. The Contractor plan shall include instructions down to the PM and PT&I task level, and shall include a schedule and any necessary implementation instructions required for completion of the work. This plan shall also provide recommendations of any modifications to the Government provided minimum requirements, which would result in an improved maintenance value.

The plan shall be subject to the review of the Government, and will be inspected down to the PM and PT&I task and schedule. Upon review, this plan shall become the property of the Government and shall be maintained in the Central Engineering Files (CEF).

5.2.1.4 Restrictions, Limitations, or Special Conditions

PM does not include cosmetic painting;

PM does include touch-up painting of utilities and system equipment which has deteriorated or has been damaged; however, it is limited to minor surface painting (up to 25 percent of the surface of the equipment) to correct damage or deterioration;

PM does include services such as filter changes, light bulb

replacements, drive belt replacements, lubricant replacement, etc., due to unsatisfactory testing or inspections; however, PM does not include corrections/upgrades identified as SFUSS or IAGP deficiencies (e.g., safety or fire inspections, new laws, etc.). Materials such as filter, light bulbs, chlorine gas, lubricants, belts, etc. shall be provided as part of the PM,

5.2.1.5 Inspections and Incentives

The MTS establish the minimum quantity and frequency for all PM and PT&I task for specified SFUSS & IAGP. The government will inspect to the PM and PT&I task level. Performance incentives shall be assessed in accordance with the Performance Requirements Summary (PRS). Timeliness means meeting the scheduling criteria in Table 5.2-1. Additionally, availability will be given incentives as described in Annex 5.5.

5.2.1.6 Availability Requirements

The government has adopted availability requirements as described in Annex 5.5, however, PM may require "off time/down time" of SFUSS. This type PM shall normally be scheduled and performed during non-operating hours of the affected SFUSS. The Building Operating Hours Summary, available at TRL, gives the operating hours for buildings and their systems/subsystems. Scheduled "off time/down time" during non-operating hours must be coordinated with the affected Resident Agency/Contractor. Scheduled "off time/down time" during operating hours must be coordinated with the affected Resident Agency/Contractor and receive review of the CO. (See 5.5.1.3)

ANNEX 5.2 PREVENTIVE MAINTENANCE

5.2.1.7 Reliability Centered Maintenance (RCM)

The SSC RCM Analysis Manuals contain RCM analysis of the facilities and systems listed in 5.2.2.6. The Contractor is required to update these analyses and make recommendations to MTS according to the requirements of 5.2.2.6 and 5.2.2.6.1. The purpose of these updates and changes to MTS is to provide a process that continually proposes modifications to PM methods, frequencies, and technologies that will provide the optimum combination of PM (time based), PT&I (condition based), Reactive (run to failure), and Proactive (change design) maintenance. (See Exhibit 10 for a list of Government furnished PT&I equipment and software.) Proposed changes that affect the minimum requirements of the MTS require the approval of the CO.

Contractor recommended changes to MTS must meet the above stated purpose, while maintaining SFUSS & IAGP life cycle and ability to provide the specified availability, intended function, outputs, redundancies, and support to SSC missions and goals. It is the Government's intention to concord with these type MTS changes, thereby allowing the Contractor to perform PM with less resources.

5.2.1.8 Installation-Accountable Government Property (IAGP)

The contractor shall maintain all Installation-Accountable Government Property (IAGP) equipment in accordance with the requirements of FAR Part 45.5. The Contractor's maintenance program shall be described in the PM plan (DR 5-FA04), see section 5.2.2.1.1. The applicable preventive maintenance tasks for IAGP are defined by Maintenance Task Sheets (MTS) and Maintenance Instructions (MI's) which are referenced in this Annex. The applicable MTS and MI's for the Special Purpose Mobile Equipment (SPME), which is a subset of the IAGP, are listed in Exhibit 4

ANNEX 5.2
PREVENTIVE MAINTENANCE

<u>ITEM NO.</u>	<u>PERFORMANCE REQUIREMENT</u>	<u>RELATED REQUIREMENTS OR INFORMATION</u>	<u>WORKLOAD DATA</u>	<u>MINIMUM STANDARDS</u>
5.2.2	PREVENTIVE MAINTENANCE PROGRAM	The SFUSS & IAGP specified for Preventive Maintenance (PM) below are defined in Table 5.1-1, and listed in the MAXIMO equipment data base, structures and facility list, and IAGP list. This work requires the use of the existing Computerized Maintenance Management System (CMMS) MAXIMO to schedule and manage the specified PM. Maintenance Task Sheets (MTS) for SFUSS & IAGP are provided in Exhibit 2 of this Annex.	Nothing Additional	Nothing Additional
5.2.2.1	Provide the labor and materials to implement, maintain, and accomplish, as defined below a reliability centered preventive maintenance program for SFUSS & IAGP.	See Below		
5.2.2.1.1	Provide PM Plan DR 5-FA04	Prepare a SFUSS & IAGP Preventive Maintenance Plan for the SFUSS & IAGP specified in this Annex. The Plan shall, as a minimum, meet the requirement of FAR Part 45.5. It shall detail how the contractor plans to perform all the required PM tasks at the specified frequencies. Further it shall include any additional contractor maintenance procedures required to meet the required levels of availability. The Plan shall contain a full one-year schedule of all SFUSS & IAGP PM (see 5.2.2.1.3). The schedule shall address when each MTS task number and step number for all SFUSS & IAGP will be performed.	1 PM Plan	The PM Plan shall be submitted for CO review within 90 days from contract start.

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		In addition, the plan shall comply with schedule in Section G and H and also Annex 9.		
5.2.2.1.2	Manage PM – Using the Existing CMMS Operate a PM (MAXIMO) CMMS Operate a PM System for Tracking and Reporting all SFUSS & IAGP PM.	The system shall provide on-line access to all SFUSS & IAGP PM status. It will provide full visibility on scheduled, in-progress, completed, and deferred PM work. Data entry shall be timely so that it will provide the scheduled PM planned for each day so that data is available for Government review by 7 A.M. daily.	Contractor determined	Information shall be available for Government review during core work hours.
5.2.2.1.3	Schedule PM-Using the Existing CMMS Schedule SFUSS & IAGP PM.	PM shall be scheduled to meet the minimum requirements of the Maintenance Task Sheets (MTS).	Contractor determined	Consideration shall be given to seasonal PM requirements.
5.2.2.1.4	Control PM-Using the Existing CMMS Operate a Work Control Center for Coordinating and Tracking all SFUSS & IAGP PM.	Assign a work control number to each Maintenance Task Sheet (MTS) to be worked, for tracking and reporting purposes. The work control number shall be referenced to the equipment ID number and Maintenance Task Sheet (MTS).	Contractor determined	All PM work shall be identified with a work control number, MTS number, and equipment ID number.
5.2.2.2	Accomplish SFUSS & IAGP PM	Accomplishment of SFUSS & IAGP PM includes all the labor and materials required to perform the maintenance tasks on the SFUSS & IAGP specified below in accordance with the Maintenance Task Sheets (MTS) provided in Exhibit 2.	See Below	In accordance with paragraphs 5.2.2.1 thru 5.2.2.1.1 and meet scheduling/rescheduling criteria in Table 5.2-1.
5.2.2.2.1	Accomplish PM for Electrical 13.8KV	The contractor shall perform all tasks at the specified	See Below	Perform all PM tasks on C-5.2 Page 5

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	System	frequencies in accordance with the Maintenance Task Sheets (MTS) for the 13.8kV Electrical Power System.		schedule and retain documentation attesting to its completion. Document in accordance with paragraphs 5.2.2.5 through 5.2.2.5.3. See paragraph 5.2.2.2.1
5.2.2.2.1.1	Accomplish PM for Air Brake Switch, Pad Mounted	Perform tasks at specified frequencies in accordance with MTS #E-1.	18 tasks	See paragraph 5.2.2.2.1
5.2.2.2.1.2	Accomplish PM for Fuse Cutout	Perform tasks at specified frequencies in accordance with MTS #E-2.	288 tasks	See paragraph 5.2.2.2.1
5.2.2.2.1.3	Accomplish PM for Pole Mounted Gang Switch	Perform tasks at specified frequencies in accordance with MTS #E-3.	70 tasks	See paragraph 5.2.2.2.1
5.2.2.2.1.4	Accomplish PM for SF6 Gas Switch	Perform tasks at specified frequencies in accordance with MTS #E-5.	30 tasks	See paragraph 5.2.2.2.1
5.2.2.2.1.5	Accomplish PM for Transformer, Pad Mount	Perform tasks at specified frequencies in accordance with MTS #E-6.	111 tasks	See paragraph 5.2.2.2.1
5.2.2.2.1.6	Accomplish PM for Pole Mounted Transformer	Perform tasks at specified frequencies in accordance with MTS #E-7.	65 tasks	See paragraph 5.2.2.2.1
5.2.2.2.1.7	Accomplish PM for Recloser	Perform tasks at specified frequencies in accordance with MTS #E-8.	16 tasks	See paragraph 5.2.2.2.1
5.2.2.2.1.8	Accomplish PM for Distribution System	Perform tasks at specified frequencies in accordance with MTS #E-9.	339 tasks	See paragraph 5.2.2.2.1